

Air Traffic Control System Command Center



Severe Weather and Route Management
2003

The ATCSCC Severe Weather Area was established to address the needs of Air Traffic Control (ATC) and the user community during the summer thunderstorm season, when convective activity creates a major disruption to the normal movement of air traffic. With the complexities involved in today's air traffic environment, the Severe Weather Area has evolved into a year-round operation; addressing National Route Program (NRP) issues, offload routings, National Airspace Redesign (NAR) initiatives and various route tests, among others. The strategic planning function was established to foster collaboration with the FAA field facilities and user community and develop a Strategic Plan of Operations (SPO) for known and anticipated system constraints.

During periods of convective activity or other significant system constraints, air traffic facilities will be called upon to favor and accept traffic that is not normally routed through their area. All ATC facilities are expected to participate in and cooperate with the SPO, to minimize system delays and balance traffic flows.

I. Operating Positions

Severe Weather National Traffic Management Officer (NTMO)

1. Responsible for severe weather operations.
2. Prioritize work within the Severe Weather Area.
3. Ensure coordination is completed to develop severe weather strategies.
4. Monitor hotlines when appropriate.
5. Suspend NRP operations as conditions warrant.

Severe Weather Specialist

1. Determine the potential impact of severe weather or other operational concerns and coordinate with all affected facilities to develop alternate routes.
2. Serve as the focal point for the implementation and coordination of reroutes.
3. Coordinate use of Canadian airspace.
4. Transmit advisories defining severe weather areas and alternate routes.
5. Transmit Anchorage ARTCC gateway release list for the Russian Far East tracks.
6. Serve as the focal point for all coordination and resolution of NRP concerns.
7. Coordinate no-transponder requests with appropriate facilities.

Severe Weather Coordinator Position

1. Coordinate operational plan, routes, and miles-in-trail restrictions (MIT) implemented by severe weather with the appropriate ATCSCC areas.
2. Ensure that specialists are informed of all reroutes being implemented to eliminate duplicate or conflicting efforts.
3. Monitor reroutes to determine need for revision, extension, or cancellation.
4. Monitor hotlines to the extent possible.

Strategic Planning Position

1. Lead the FAA facilities and user community in developing the Strategic Plan Of Operation (SPO).
2. Brief the National Operations Manager (NOM), NTMOs and other ATCSCC operational personnel as necessary, on the SPO.
3. Update the SPO in accordance with the Strategic Planning Team (SPT) telcon timeline.
4. Post the SPO on the ATCSCC web page and issue a numbered advisory.

II. Tools

National Playbook

Originating from a Collaborative Routing workgroup recommendation to enhance common situational awareness, the Playbook is comprised of pre-validated routes for a variety of weather scenarios. The Playbook is well suited to addressing arrival and enroute impacts. Departure scenarios require more flexibility than the Playbook can usually provide, making them better addressed by Coded Departure Routes (CDRs). Updated on the same 56-day charting cycle for aviation charts, the Playbook is a living document that experiences continual updates and revisions.

Route Management Tool/CDRs

CDRs are designed to enhance common situational awareness and decrease controller workload in implementing reroutes. For use in the Severe Weather Unit, CDRs are located within the Route Management Tool (RMT). Also included in the RMT are location identifiers, preferential arrival routes (PAR) and a graphical depiction tool for reroutes.

Collaborative Convective Forecast Product (CCFP)

Collaborative weather product from the ARTCC Weather Service Units, Aviation Weather Center of the National Weather Service, ATCSCC weather unit and airline meteorologists. The CCFP is the primary weather product for the SPO.

Tunneling/Capping

Tunneling refers to the early descent of arriving traffic to avoid saturated sectors. This may be accomplished by descending from the super-high to high stratum, or the high to low stratum.

Capping refers to restricting departures to the low altitude stratum, avoiding saturated high altitude sectors.

Canadian Airspace

Utilizing routes through Canadian airspace is an excellent alternative when domestic routes are impacted. Toronto and Montreal Centers must coordinate with their operational areas prior to accepting additional traffic, so allot extra time when implementing a swap through their airspace.

NRP and Severe Weather

NRP routes are an important consideration for the Severe Weather Area and a valuable tool for the users. With enough foresight, users may be urged to file NRP routings away from an area of current or forecast impact during the SPT, making reroutes unnecessary. Alternatively, NRP routings may exasperate operational concerns, requiring reroutes for delay mitigation or flow integrity.

Eastern Region Hotline

The Eastern Region hotline is used during severe weather events to facilitate coordination among field facilities and the ATCSCC. Select users are invited to monitor the telcon as well, but may not participate. When a Severe Weather Avoidance Plan (SWAP) is anticipated, the hotline will be activated and the participants will dial-up through the Eastern Region bridge. All major eastern region facilities, ZOB, ZBW, ZAU, the ATCSCC and users (listen only) are invited to participate. Remember that reroutes are not to be coordinated via the hotline.

National Route Program

NRP provides users with significant routing flexibility with flights filed at or above FL290. NRP may be suspended for SWAP, however this must be coordinated with the NTMO for approval prior to the suspension.

FEA / FCA

A Flow Evaluation Area (FEA) is a three-dimensional volume of airspace, along with flight filters and a time interval, used to evaluate potential system constraints.

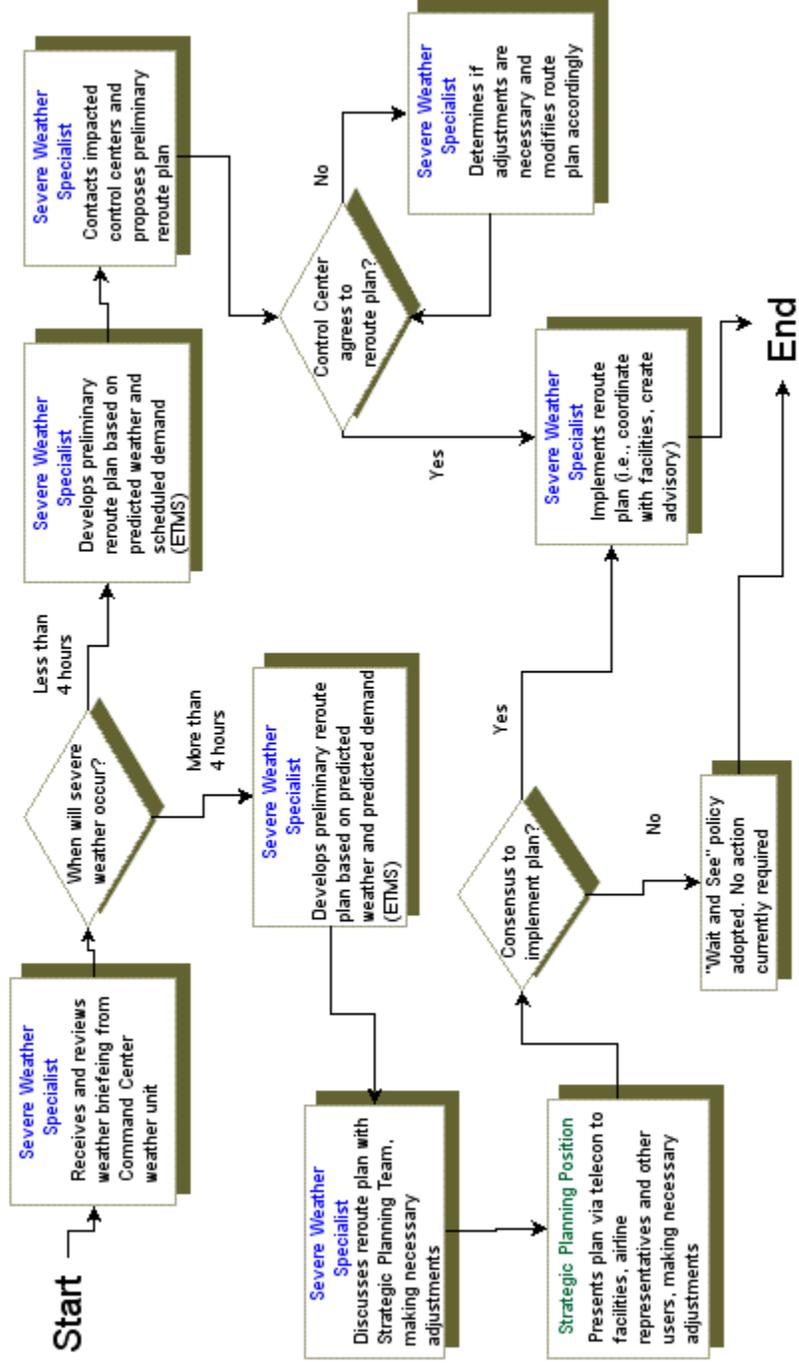
A Flow Constraint Area (FCA) is a three-dimensional volume of airspace, along with flight filters and a time interval, used to identify areas of system constraints. System stakeholders must take action to mitigate the constraint identified by the FCA.

III. Developing and Implementing Reroutes

Many factors must be considered when developing reroutes. The following guidelines will assist in developing reroutes with a systemic perspective:

1. Determine the area impacted by severe weather or other operational concern; i.e., equipment outage, sector volume or flight delays. Discuss with the ATCSCC weather unit and field facilities the expected extent of the weather, emphasizing the time of development, affected area, tops, movement and duration.
2. Examine the flights traversing the impacted area, either through ETMS or FCA list. Focus on the number of flights and their filed routes. When reading the flight plans, remember that an “S” in front of the time denotes scheduled (or preliminary) routing information and the user has not yet filed their ATC flight plan.
3. Determine the initiative required. Many times the users have already filed themselves around the impacted area, precluding the need for reroutes. If this is the case, the situation may be handled tactically. Alternately, the situation may be handled with deviations or MIT. Advise the SVRWX Coordinator of your intentions, to help avoid conflicts with other active or planned initiatives.
4. If a reroute is necessary, the first resource for developing reroutes is the National Playbook, which features prevalidated routes for many different scenarios. The Playbook does not, however, address every situation and specialists should be prepared to create ad hoc routes as necessary.
5. Discuss the route with the affected facilities, making any necessary route adjustments. Field facilities are expected to favor and accept rerouted traffic. This may result in facilities restricting their internal traffic with MIT or with altitude caps to accommodate the reroute.
6. Complete a Severe Weather Reroute Advisory, which will automatically be entered in the Severe Weather log. Remember to enter your operating initials along with the advisory in the log when more than one person is signed on in Severe Weather.

Severe Weather Reroute Planning Process



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IV. Facility Overviews

ZAU

Overview

ZAU TMU is staffed with Arrival, Departure, Overflight, Weather (usually combined) and Military (usually combined) Coordinators. Similar to the ATCSCC, you have an equal chance of reaching any of these specialists when calling.

Major Traffic Flows

Eastbound Overflights:

J16.....ZBW arrivals
J34/J584/J554....EWR arrivals
J94/J70.....JFK arrivals
J146.....LGA/PHL/PIT arrivals
J30.....IAD arrivals
BAE MKG/VHP FWA....DTW arrivals

Westbound Overflights:

J94/J10/J60....DEN arrivals
J64.....LAX arrivals *very dependent on NRP routings
J36/J34.....SFO arrivals *very dependent on NRP routings

The majority of ZAU overflights fall into the transcon category, which are most easily managed with Playbook reroutes. To be effective, however, these reroutes must be implemented several hours in advance of reaching the Midwest. East Coast events will lessen the severity of ZAU overflight problems due to ZNY CDR or Playbook usage, as will NRP at times.

Departures

ORD/MDW east departures:

ELX.....Canada/ EWR/ JFK/ ZBW/ Atlantic Overseas

GIJ.....DC Metro/ PHL/ LGA/ PIT/ EWR (MDW)

ORD/MDW south departures:

EON.....ATL/ MCO/ RDU/ CVG/ CLT

GUIDO (J73)..BNA/ MEM/ Florida (minus MCO)

RBS.....ZFW/ZHU/ STL

ORD/MDW west departures:

PLL.....SLC/ SJC/ SFO/ DEN/ PHX

IOW.....LAS/ DEN/ PHX/ LAX (common NRP)

MZV.....MCI/ PHX/ LAX

ORD/MDW north departures:

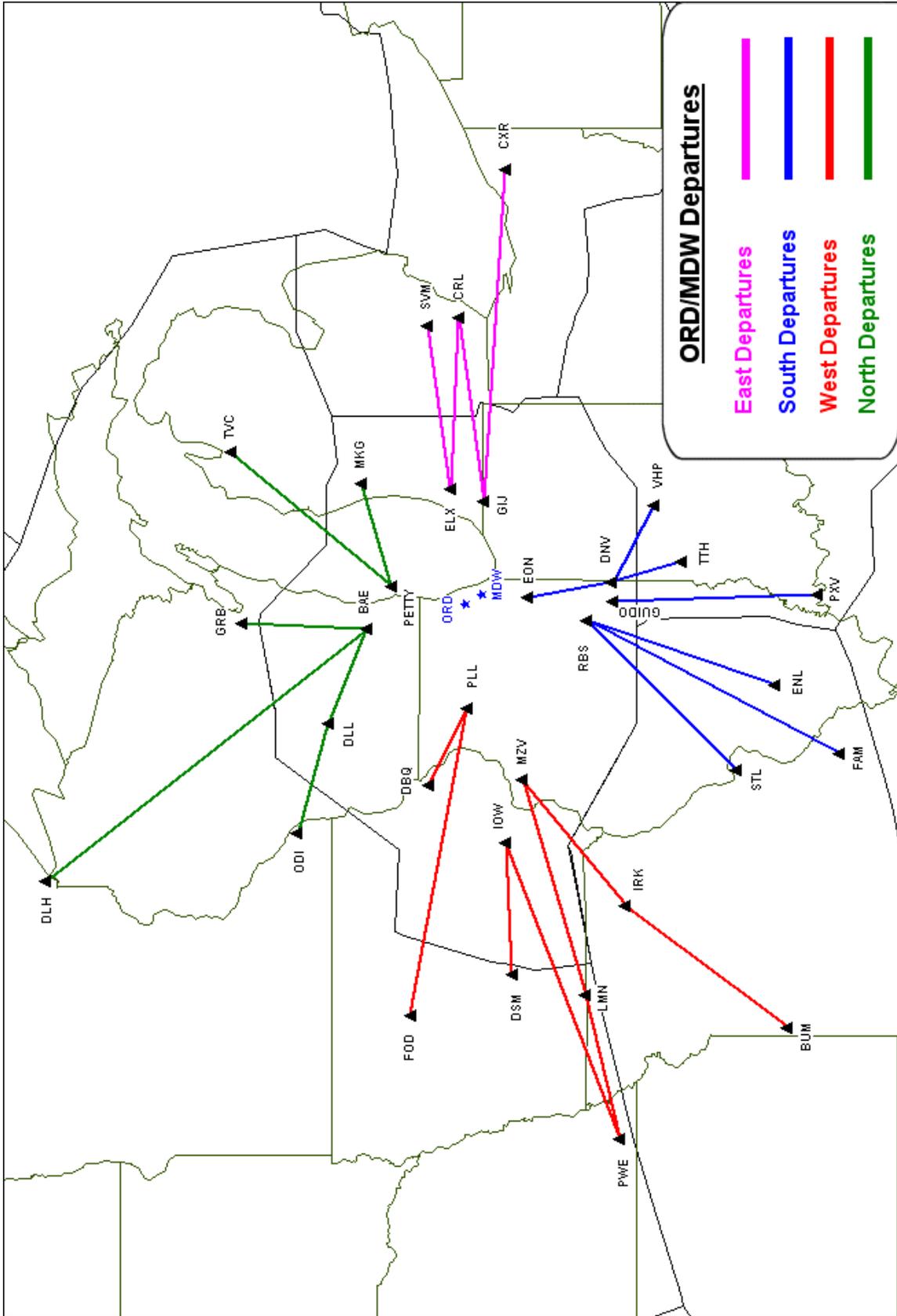
BAE.....ZSE/ Pacific Overseas/ MSP (MDW)

PETTY.....DTW/ Atlantic Overseas

Common Departure Reroutes

Common swap routes from ORD and MDW are coordinated CDRs and located within the RMT and ORD swap book. When possible, ZAU prefers to swap north. There are fewer volume constraints in that area, so a BAE J34 reroute to ZOA, ZSE, ZLC or even ZDV is easily implemented. Additionally, PETTY swaps to ZBW, ZNY and Canadian destinations through CZY are easily implemented. If ORD arrival demand via J36 PMM is low, ZOB may be willing to use J16 eastbound as well, avoiding ZMP.

When east departures are heavily restricted or unusable, a common reroute is to swap the DC Metros and PHL if possible, from GIJ (east) to EON (south) and over BKW. If south departure routes become impacted, swapping departures to ZFW/ZHU from RBS to MZV is a good option, as is moving some EON volume (ATL, RDU, CLT) to GIJ J146 GERBS and then south. ZOB and ZID are both very interested in any swap via GIJ J146 GERBS, as their internal volume conditions influence its implementation.



Arrivals

ORD arrivals:

KUBBS.....PMM STAR	ZNY/ ZBW/ Canadian
BEARZ.....OXI STAR	PHL/ ABE/ MDT/ PIT/ DC Metros
.....OKK STAR	ATL/ Florida
PLANO.....BDF STAR	LA Basin/ Desert Southwest/Texas/ COS
.....CAP PNT	offload route for STL departures, by apre
KRENA.....JVL STAR	SFO/ Pacific NW/ DEN
.....DLL MSN	offload route for MSP departures and international arrivals, by apre

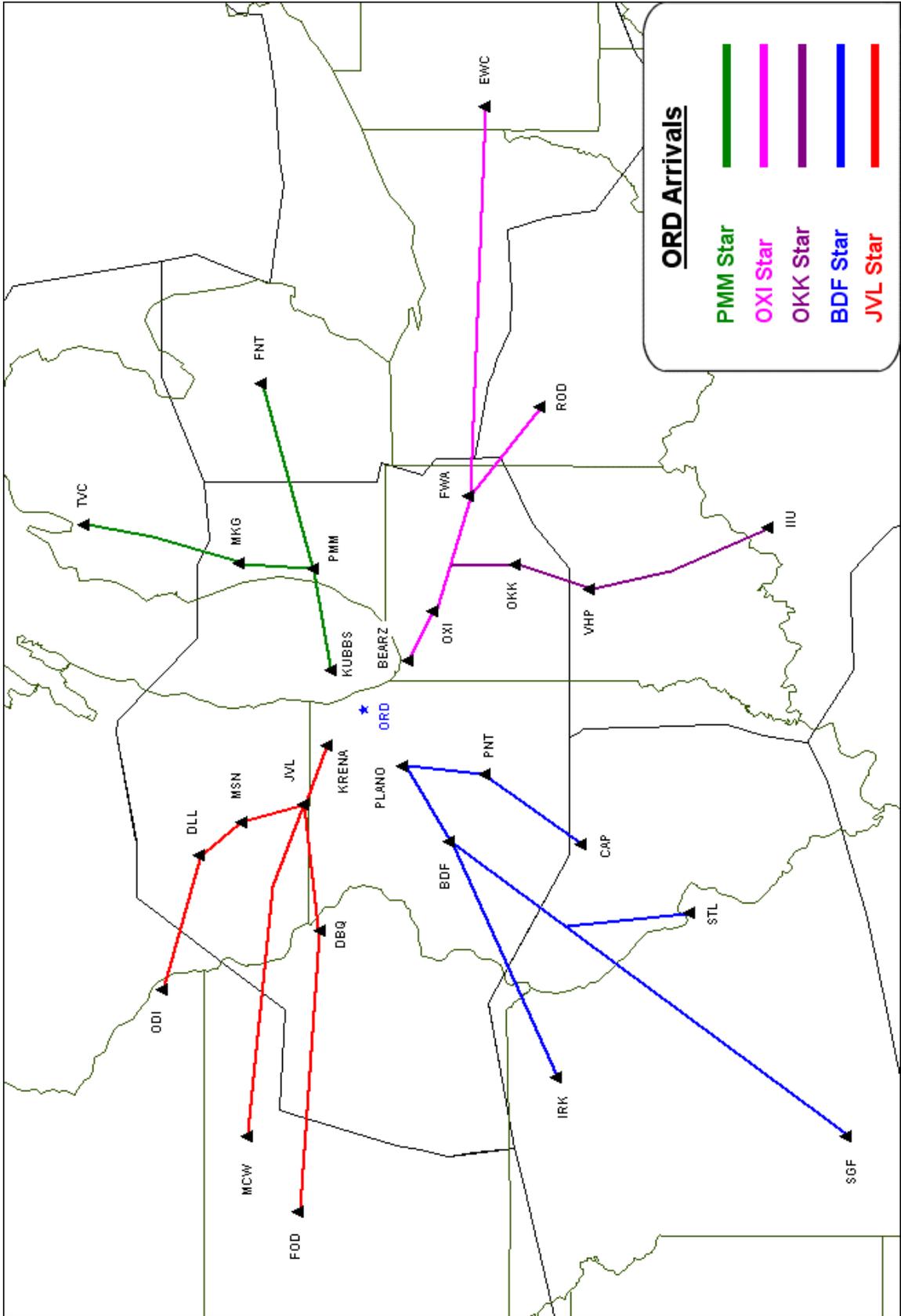
MDW arrivals:

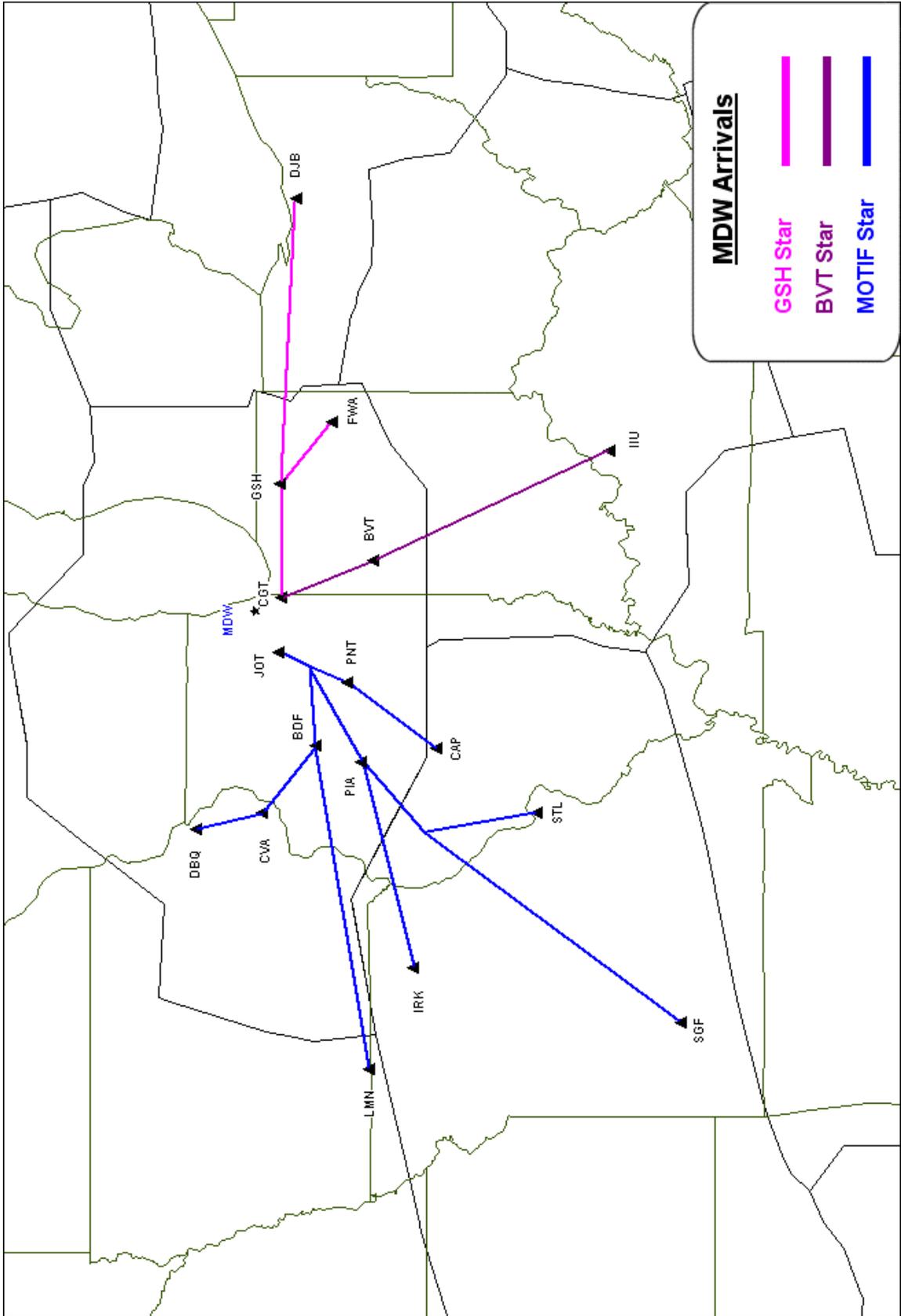
JOT.....MOTIF STAR	All facilities north, northwest, west and southwest
CGT.....BVT STAR	Facilities south and southeast
.....GSH STAR	Facilities east and northeast

Common Arrival Reroutes

When swapping ORD arrivals, it is easiest to treat them like an airway swap; shifting them around to maintain as much balance as possible to avoid overloading any particular fix. If BEARZ becomes impacted, a common reroute is moving ZMA/ZJX departures to the BDF STAR via STL and the MAGOO transition. Once this is accomplished, examine ZFW/ZHU to ORD volume and if necessary move this to J96 BDF and off of STL. This action would normally be enough, as Texas and Florida (east and west) arrival pushes rarely happen concurrently. However, an examination of the west coast to ORD demand would be prudent.

Should ZNY and ZBW enter into a swap for ORD through Canadian airspace, remember that PHL, ABE, and MDT normally file J64 to the OXI STAR and are not easily swapped north by ZNY. It is relatively easy for ZOB to accommodate the ABE/MDT departures transitioning to PMM. PHL departures are best served being swapped to J6 EYTEE J149 ROD FWA, or via PHL DQO offload routes ESP'd with ZDC.





NAVAIDS

BAE	Badger	FWA	Fort Wayne	MZV	Moline
BDF	Bradford	GIJ	Giper	OKK	Kokomo
CGT	Chicago Heights	GSH	Goshen	OXI	Knox
DBQ	Dubuque	IOW	Iowa City	PIA	Peoria
DLL	Dells	JVL	Janesville	PLL	Polo
DNV	Danville	JOT	Joliet	PMM	Pullman
ELX	Keeler	MKG	Muskegon	PNT	Pontiac
EON	Peotone	MSN	Madison	RBS	Roberts

Special Use Airspace

There are no SUAs in ZAU that would normally have an impact on reroutes.

ZBW

Overview

ZBW TMU is staffed with MOS, DSP/ESP, Metering and Reroute positions. The MOS is generally not involved in TM issues. All positions except TMCIC (if applicable) and MOS are rotated throughout the shift.

The Metering position at ZBW is a true meter. That is, they manage fix-crossing times to deliver a pre-set AAR. The metering TMC observes the BOS final as well as the ZBW holding patterns and assigns meter times to various other Tracons (i.e. MHT, PVD and Cape).

Major Traffic Flows

Departures from New England

SYR J547...ORD/DTW/CLE/MSP and some CVG

J6.....DFW/BNA/MEM

J75.....CLT and Some Florida

J48.....ATL

J80..... STL/most to LA Basin/CVG pref

J121/J174... AR traffic

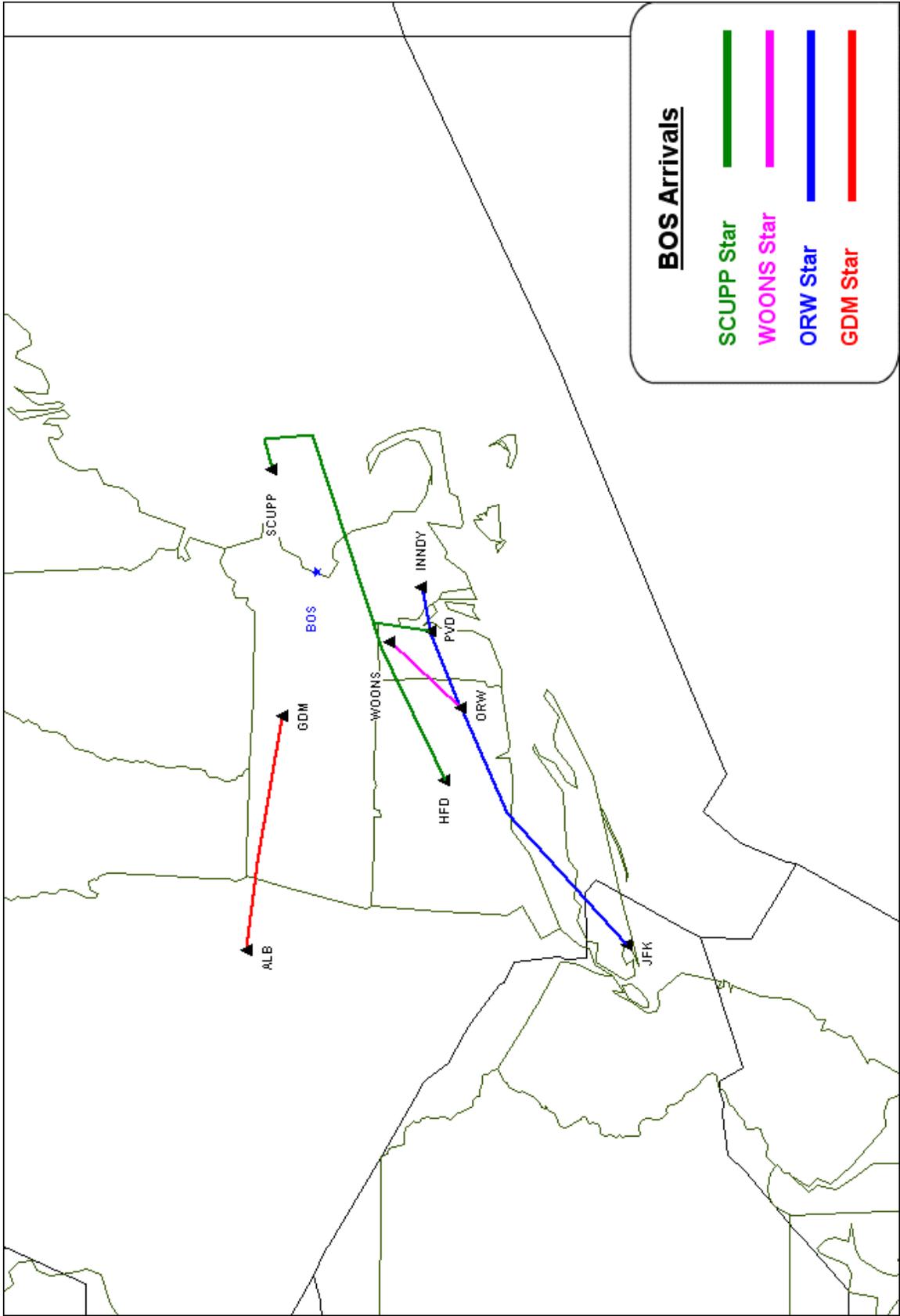
PHL arrivals have two routes, east via HTO and west via DNY SPUDS star. The two routes can be swapped without significant impact. ZBW can accept PHL offloads via DNY from ZOB.

JFK arrivals also have two routes. The internationals from Europe arrive via ROBER, which is south of BOS. There is a heavy international arrival push from 3-6pm local, early coordination of changes is imperative. JFK arrivals may also be routed via HNK IGN, this route runs back into ZNY at LENDY, however. Offloading JFK arrivals from ZOB through ZBW is not effective if they resume the LENDY route, as it increases the probability of holding in ZOB. Swapping IGN and ROBER traffic is feasible with appropriate coordination with N90 and ZNY.

EWR arrivals are via SAX and the SHAFF star. Routing all EWR arrivals through ZBW from the west may be accommodated by ZBW.

LGA arrivals are routed via RKA and overfly IGN. Much like EWR, ZBW may accept all LGA arrivals from the west with MIT.

HPN arrivals from the west are also via DNY, and come from both ZNY and ZOB. The volume for HPN is much less than the other N90 airports and will generally not impact the ZBW operation significantly.



BOS arrivals from the west are via ALB and the GDM STAR. BOS arrivals from the northeast, i.e. Europe, are via SCUPP. Arrivals from N90 and ZDC are via ORW and the ORW STAR. Arrivals from the south and west may be offloaded to SCUPP.

Common Reroutes

When J6/J80 are impacted or ZNY volume or departure delays are a concern, utilize SYR J29 through ZOB. ZOB is usually amenable. If J48 or J75 are impacted, swap to the route used by ZNY, if available. This has little impact on ZBW. If J75/J48 are both unusable, HTO J121 may be utilized.

Utilization of Canadian Airspace

ZBW abuts Toronto (CZY) and Montreal (CZU) Centers; CZY is the primary Canadian facility for coordinating swaps. Should you need to swap N90 Northgate departures to ZBW and then westbound, GREKI swaps are the norm. Should volume become a concern during a period when both ZBW and N90 are swapping through CZY, stopping all ZBW westbound departures to favor N90 (or vice-versa) is an option to mitigate these concerns.

NAVAIDS

ALB	Albany	GDM	Gardner	PLB	Plattsburgh
ART	Watertown	HFD	Hartford	PVD	Providence
BAF	Barnes	HTO	Hampton	PWM	Portland, ME
BDL	Bradley	IGN	Kingston	RKA	Rockdale
CAM	Cambridge	MHT	Manchester	SAX	Sparta
DNY	Delancy	MSS	Messina	SLK	Saranac Lake
ENE	Kenebunk	ORW	Norwich		

Special Use Airspace

The Falcon MOAs east of ART impact ZBW's ability to utilize ART for reroutes. The Playbook Canadian Routes have been developed to avoid this area. When active, W105 off the east coast (between Long Island and ACK) impacts southern North Atlantic Tracks.

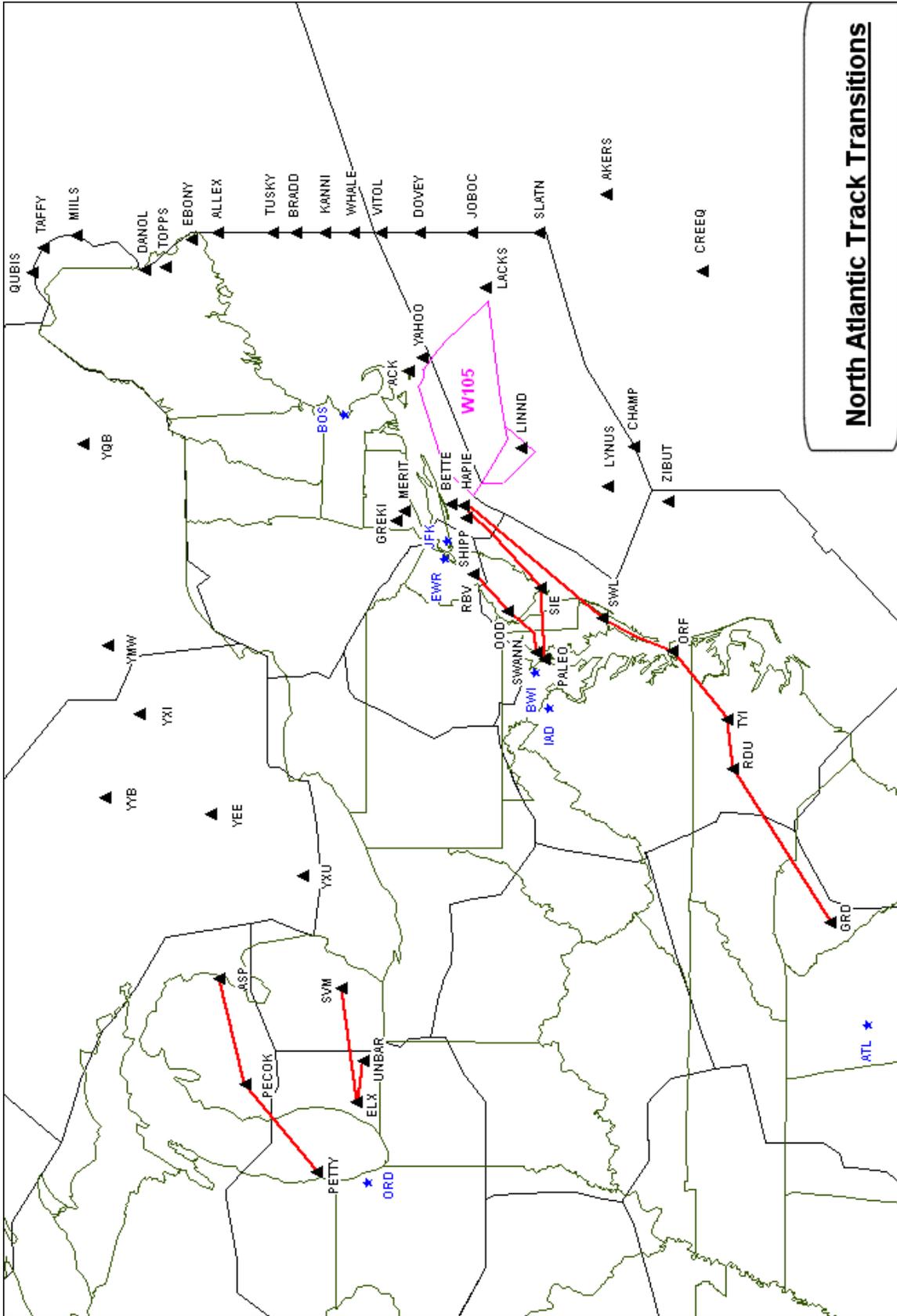
North Atlantic (NAT) Tracks

The North Atlantic Tracks (NATs) are non-radar routes established by Gander ACC up to 8 hours in advance, and transmitted from Gander and Shanwick Oceanic Area Centers via Teletype to users and control facilities. The tracks are dynamic, changing daily to optimize capacity and establish a minimum time track (MTT). This minimum time track is loaded with most of the North Atlantic volume and additional tracks are assigned north and south of the MTT for increased capacity.

The ZBW North Atlantic Advisory message is prepared by ZBW and after coordination with ZNY TMU, ZNY North Atlantic Supervisor, and ZDC STMC, is transmitted as a numbered advisory to all domestic and international users and facilities. This message identifies the routes that international departures will file to gain entrance to the NATs via Inland Navigation Fixes (INFs).

There are four departure routes for the highest volume flows from JFK and EWR airports: GREKI, which tracks north and northeast bound from N90; MERIT, which heads northeast bound over BOS; BETTE and HAPIE, which track overhead Long Island and the vicinity of ACK, heading eastbound. Note: HAPIE cannot be used while W-105 is active. Generally, half of the JFK international departures are routed via BETTE and/or HAPIE. The sectors that receive the BETTE and HAPIE departures are optimized for the higher volume of eastbound departures, alleviating potential departure delays at JFK.

A southern jet stream may necessitate the use of DOVEY is one of the INF's, complicating the track allocations and increasing the potential for departure delays. DOVEY tracks go directly from ZBW radar separation, into a narrow ZNY radar sector and then into non-radar ZNY Oceanic airspace at 67 degrees west. The transition from radar separation to non-radar requires an increase in longitudinal spacing and quickly backs up to the departures on the ground at JFK and EWR. When delays are anticipated on a DOVEY track, ZBW will attempt to route JFK departures via SHIPP LINND DOVEY for delay mitigation. This route is longer, but can help reduce overall departure delays. Alternately, increased MIT or airborne offloads to more northerly INFs in Moncton Control Center may be utilized.



North Atlantic Track Transitions

ZDC

Overview

ZDC specialists rotate through operating positions, including TMCIC. The TMCIC will primarily answer DCC calls, although during busy periods, an assistant TMCIC is assigned to assist with coordination. The ZDC ESP position is dynamic and may be monitoring any combination of: PHL, EWR, LGA, JFK, TEB MMU, DCA, IAD, BWI, CLT, ATL, BOS, PIT OR RDU; depending on current requirements.

Major Traffic Flows

The sectors in central are tasked with sequencing several destinations at once. It is common to have several sectors blend the same flows due to sector stratification. This process becomes further complicated during periods of convective activity.

ZBW Arrivals transition via:

J79 JFK
PXT J191 RBV J222 JFK
J174 HTO

ZNY Arrivals transition via:

From ZTL:

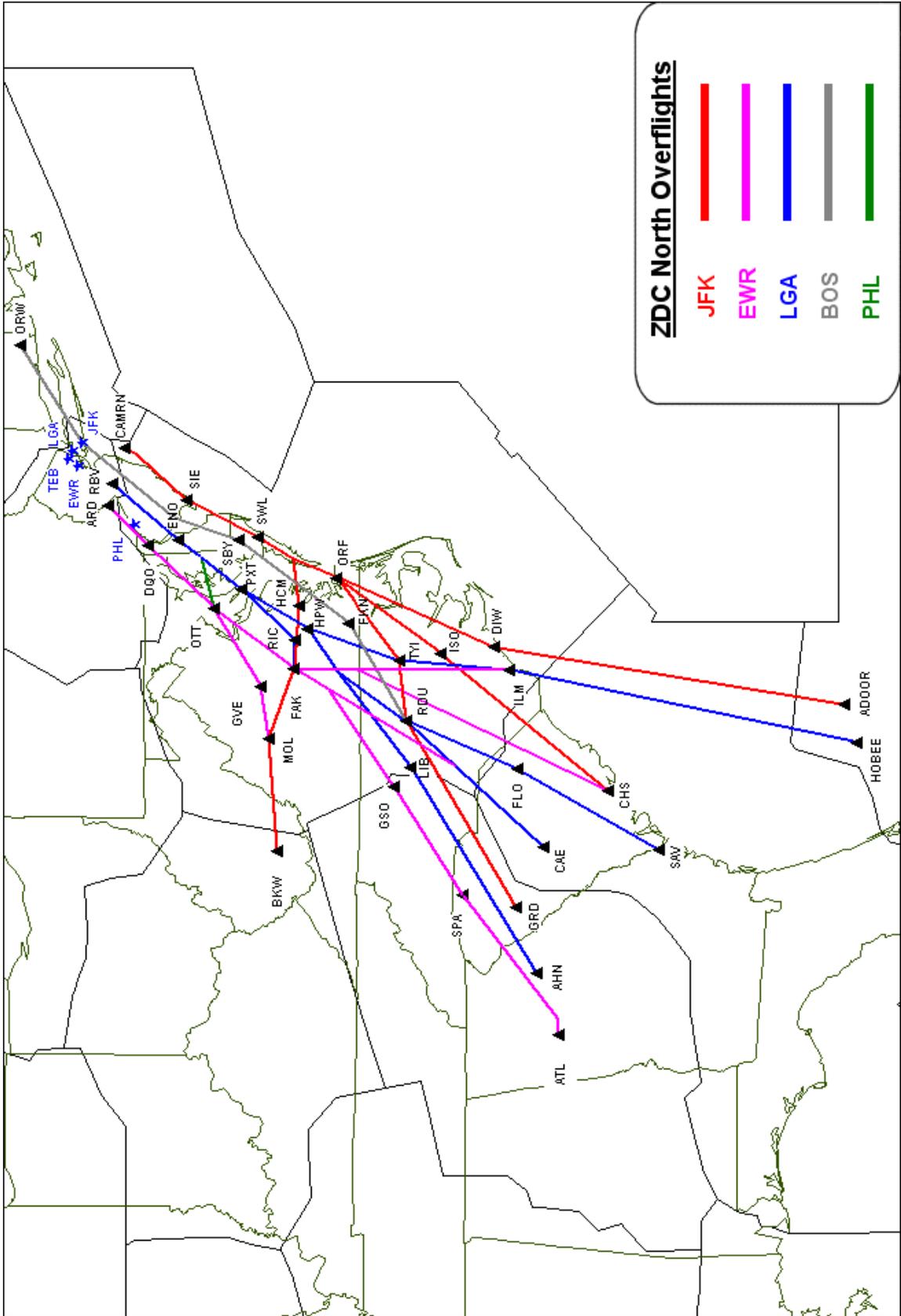
J208 HPW J191 PXT (LGA/TEB/MMU)
J14 RIC (LGA/TEB/MMU)
J14 J51 FAK (EWR/PHL)

From ZJX:

51 FAK (EWR/TEB/MMU/PHL)
J207 RDU J55 HPW (LGA/TWB/MMU)
J121 SWL (PHL)
J191 HUBBS J61 OTT (PHL/EWR)
J174 ORF J121 SIE (JFK)

From ZID:

J42 GVE (PHL/EWR/TEB/MMU)
J42 MOL FAK (PHL/LGA/TEB/MMU)



Washington, DC Arrivals:

From ZOB:

J30 BUCKO (IAD/DCA)
J162 MGW (BWI)

From ZID:

HVQ (IAD/DCA/BWI)
J42 BKW (IAD/DCA/BWI)

From ZJX:

J165 RIC (DCA/BWI)
J52 RIC (DCA/BWI)
ILM J40 RIC (DCA/BWI)
J51 FAK (IAD)

From ZTL:

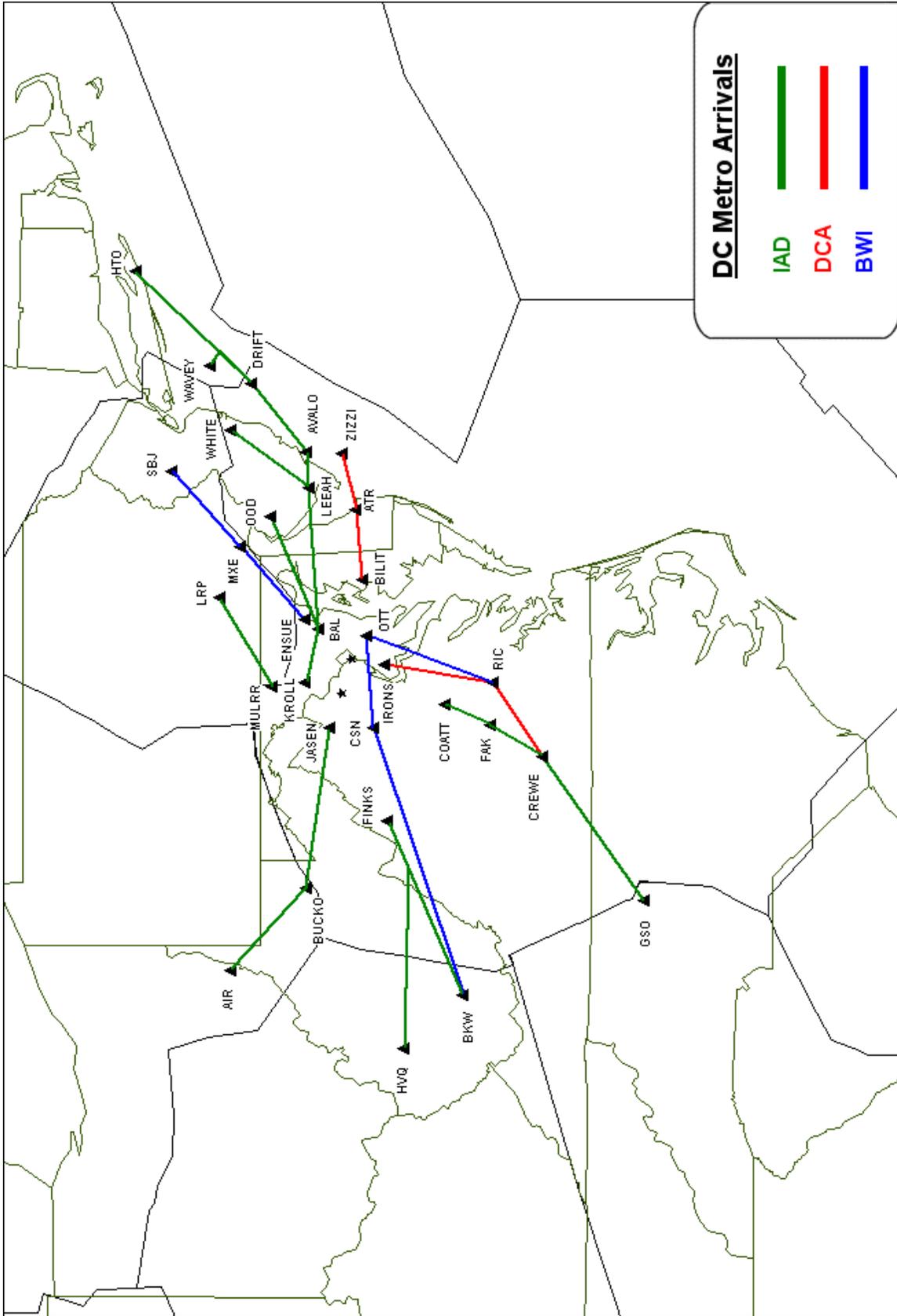
J14 J51 FAK (IAD)
J14 RIC (DCA/BWI)

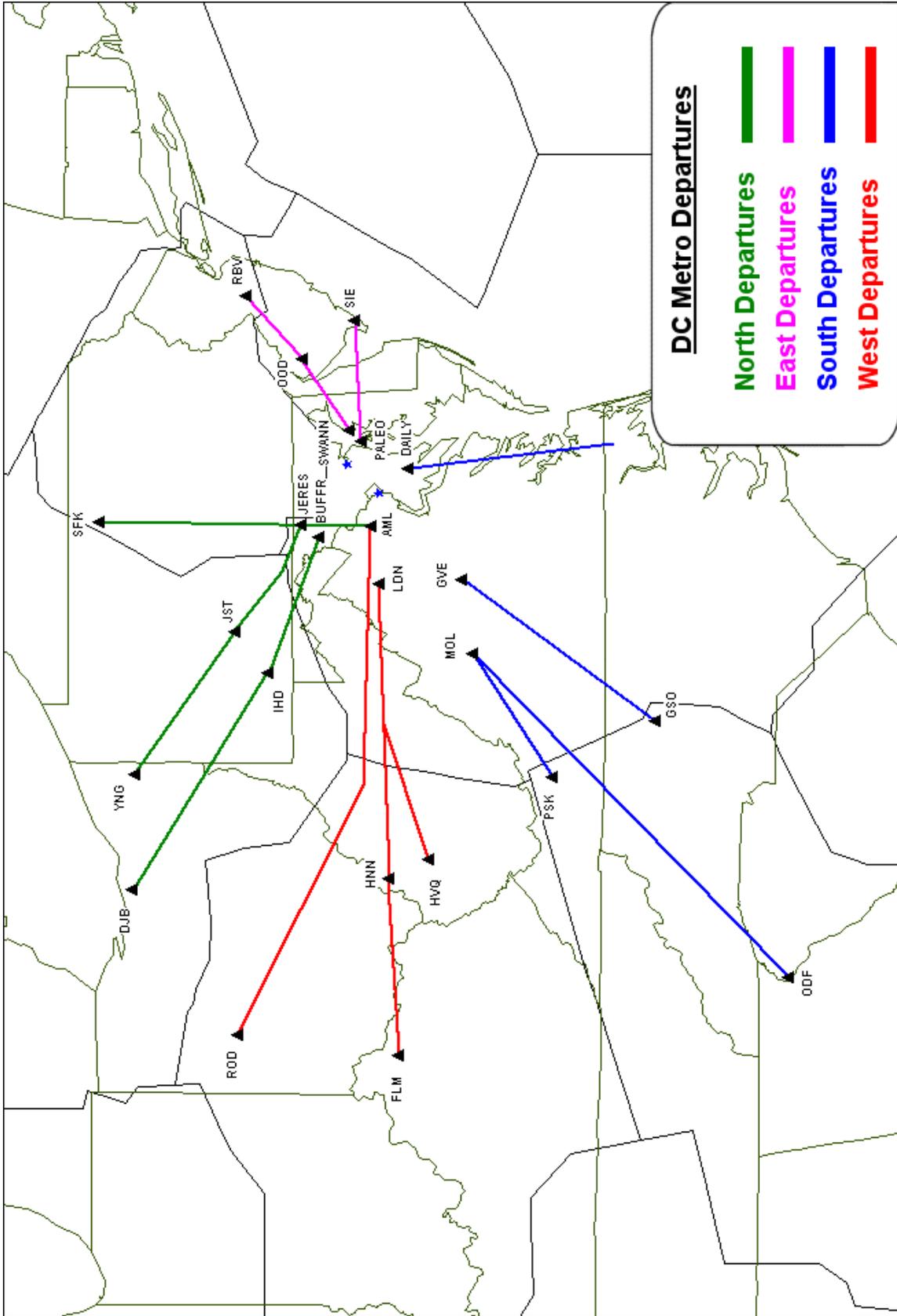
From ZBW:

RIFLE J174 ZIZZI BILIT (BWI)
SAX J6 LRP (IAD)

Washington, DC Departures:

SWANN.....ZBW/EWR
PALEO.....LGA/JFK
JERES.....DTW
BUFFR.....PIT
AML.....ORD
LDN.....ZID/ZKC/DFW/MEM/BNA
MOL.....IAH/ZTL
GVE.....West Coast of Florida
DAILY.....East Coast of Florida





Common Reroutes

ZDC may operate a single flow to EWR/LGA either over ARD or RBV, however JFK can't utilize either. JFK utilizes routes over SIE. If SIE is impacted and warning areas are available, a reroute via SIE OWENZ may be possible.

If arrival routes through ZDC are unavailable, rerouting to J220 may be an option, however the volume of traffic arriving from ZOB limits this.

Arrival and departure routes are combined internally to ZDC as much as possible prior to implementing swap. For example, western arrival routes will be combined with more easterly routes as weather enters ZDC from the west. Once the weather progresses east, the easterly routes will be combined with the western routes.

NAVAIDS

AML	Armel	ATR	Waterloo	BAL	Baltimore
BRV	Brooke	CSN	Casanova	CVI	Cofield
CYN	Coyle	DIW	Dixon	DQO	Dupont
ENO	Smyra	ESL	Kessel	FAK	Flat Rock
FKN	Franklin	GVE	Gordonsville	HCM	Harcum
HPW	Hopewell	ILM	Wilmington	ISO	Kingston
LDN	Linden	LIB	Liberty	LYH	Lynchburg
MOL	Montebello	MRB	Martinsburg	OOD	Woodstown
ORF	Norfolk	OTT	Nottingham	PXT	Patuxent
RDU	Raleigh-Durham	RIC	Richmond	SBY	Salisbury
SIE	Sea Isle	SWL	Snow Hill	TYI	Tar River
VCN	Cedar Lake				

Special Use Airspace

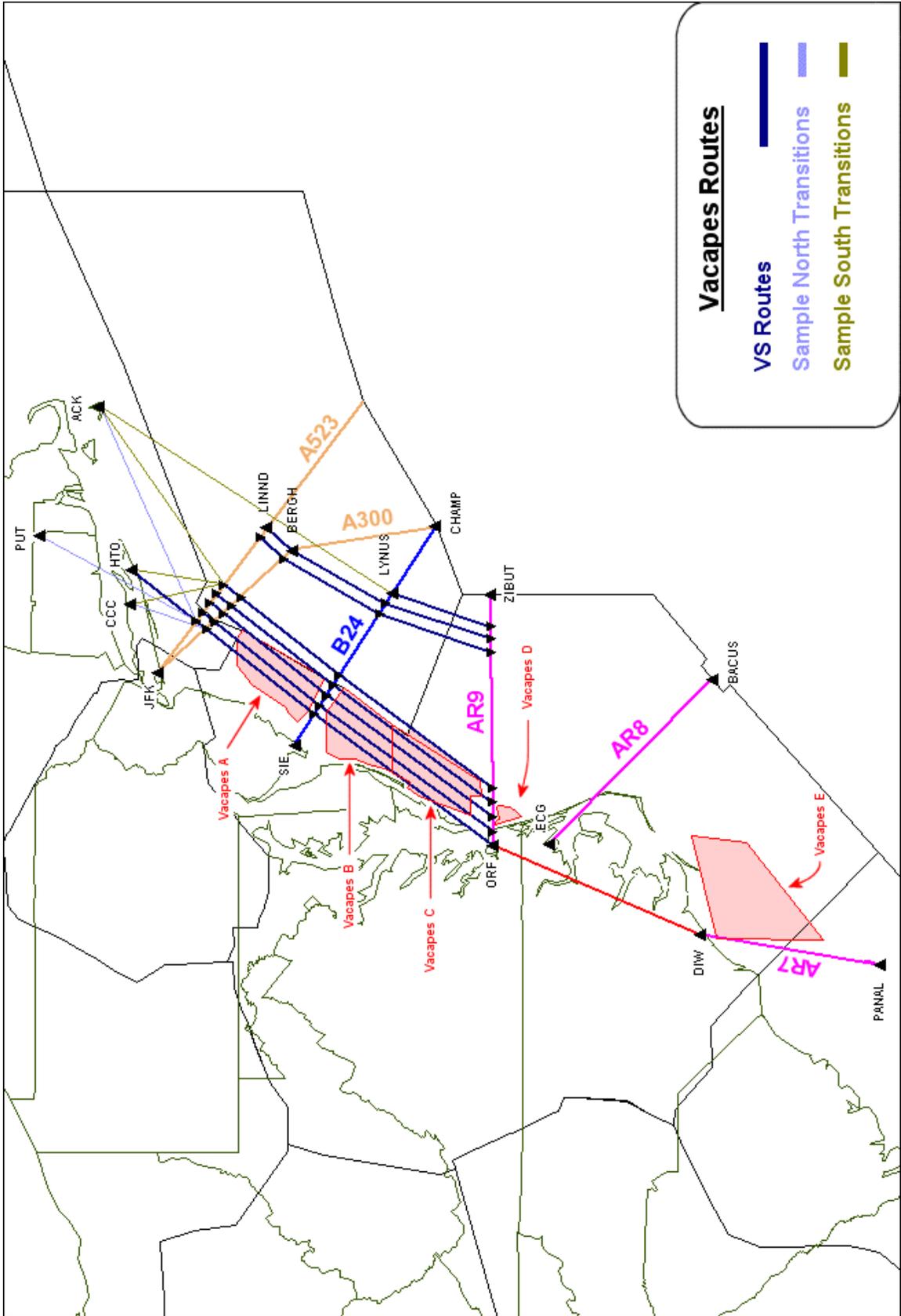
Large warning areas border the Atlantic Coast in eastern ZDC and ZJX. During episodes of convective activity, these areas pose a significant challenge to the continued operation of civil operations. Once ZDC advises that the warning areas will be needed to accommodate aircraft deviations, coordination with the military should be accomplished; usually be the Severe Weather NTMO or the NOM. The areas available for use with coordination are:

Vacapes1: Vacapes Areas A, B, C, D and E

Vacapes 2: Defined by waypoints : IMELY-WUZYU-GLENA-FUMES-OLDEY, and includes the airspace west of that line

Vacapes 3: Defined by waypoints: IMELY-BRACK-BOHJO-ECOSE-KENSI-OLDEY, and includes the airspace west of that line.

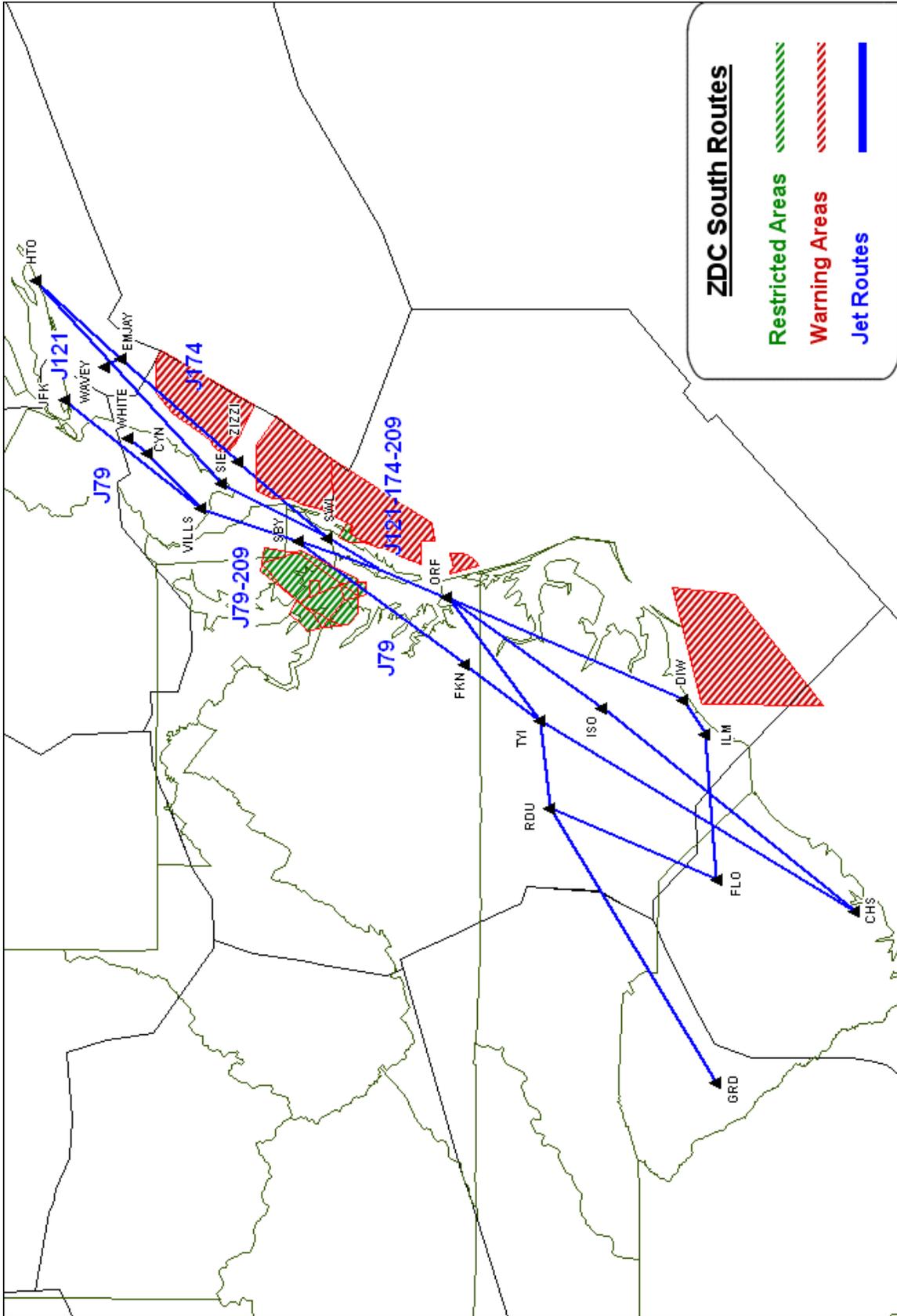
Additionally, the Vacapes (VS) Routes along the East Coast provide another alternative to explore when the East Coast is impacted. The Department of Defense and the FAA developed these R-Nav only routes to help reduce delays and provide additional routes to civil aircraft.



Other SUAs within ZDC that may restrict operational flexibility are:

Wallops Island (R6604): Along with W386 (part of Vacapes B), Wallops Island operations impact WHITE/WAVEY departures and may prompt MIT or the rerouting of BOS/PHL arrivals away from central ZDC.

PATUXENT (R4002-8): When active, PATUXENT is usually restricted for the entire day with altitudes ranging from 070 and up to FL270 or FL470. PATUXENT activities can significantly restrict ZDC's flexibility in accommodating deviations or alternate routes.



ZDV

Overview

ZDV TMU is normally staffed with three operating positions: Metering and two ESP positions. Metering handles all responsibilities surrounding arrivals into and departures out of the Denver terminal area. Two ESP positions are operated to manage enroute spacing and reroutes. During the winter months, ZDV utilizes an additional position to manage Ski Country traffic.

Major Traffic Flows

Eastbound Overflights:

ORD arrivals.....BFF ONL FOD JVL *OBH FOD may be used during off-peak periods
.....SLN IRK BDF

Westbound Overflights:

LAX arrivals.....J64 TBC; alternate north route through ZLC via J60 BCE
LAS arrivals.....J64 PGS; alternate north route through ZLC via J60 BCE
PHX arrivals.....ALS J102 GUP

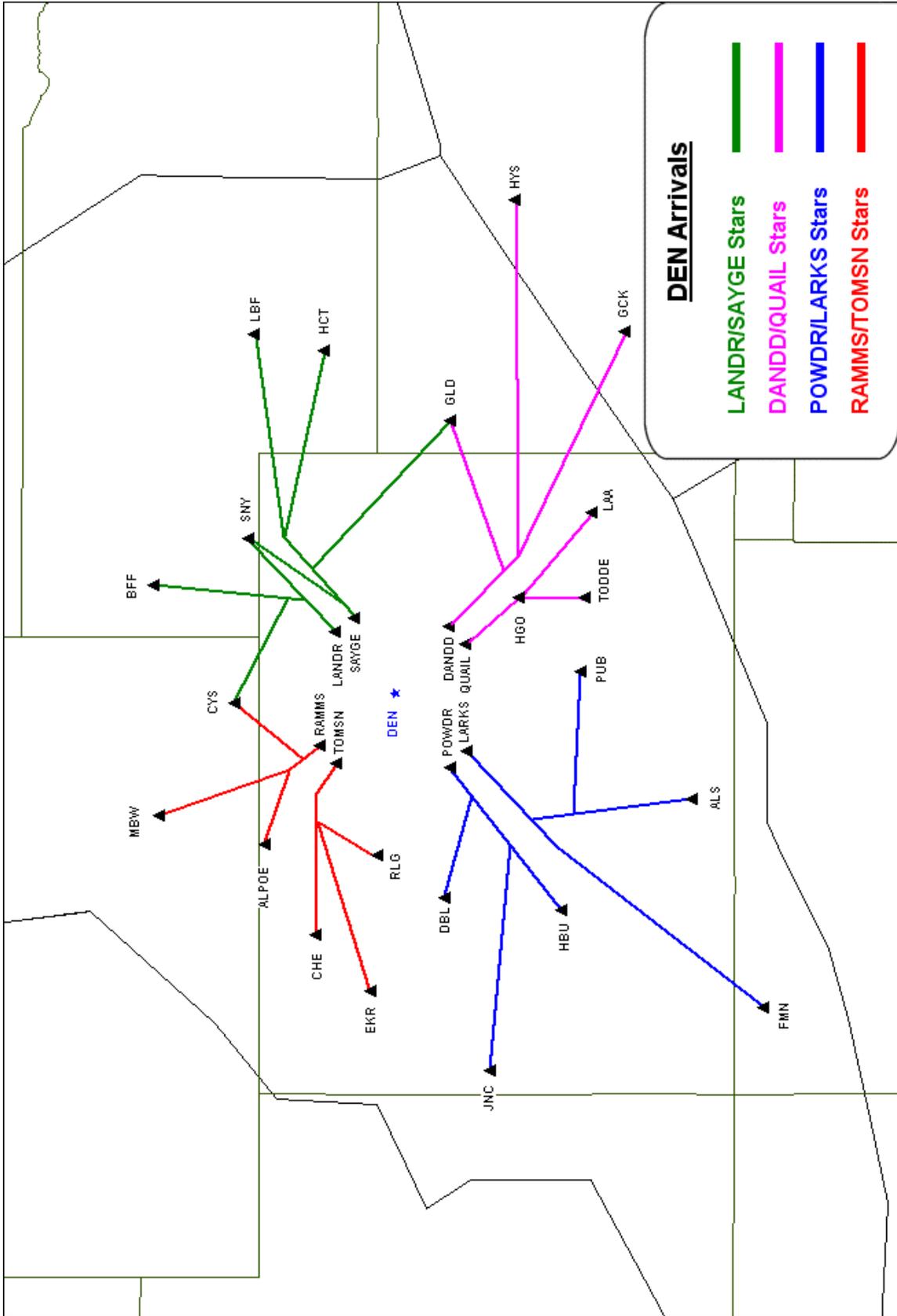
Common Reroutes

The DEN airport operates a four corner-post arrival gate system, with each gate having dual arrival routes. DEN arrivals are almost always handled internally since eight arrival gates allow for quick reroute changes in severe weather situations. During more significant weather events, when all west or east gates are impacted, first tier facilities may be called upon to reroute this traffic. When severe weather impacts DEN area departures, CDRs are typically used to accommodate SWAP. All CDRs return to normally filed routes before leaving ZDV airspace.

Playbook routes for trans-con flights from the west to east coast, typically combine into a single route in ZDV. This poses a challenge in achieving required spacing on these routes and will frequently necessitate pass-back MIT restrictions as this traffic competes for routes leaving ZDV airspace.

NAVAIDS

ALS	Alamosa	BFF	Scottsbluff	CHE	Hayden
CYS	Cheyenne	CZI	Crazy Woman	DBL	Red Table
EKR	Meeker	FMN	Farmington	GLD	Goodland
HBU	Blue Mesa	HCT	Hayes Center	HGO	Hugo
JNC	Grand Junction	LAA	Lamar	LBF	North Platte
MBW	Medicine Bow	PUB	Pueblo	SNY	Sidney



ZFW

Overview

ZFW TMU has a specialist assigned as the TMCIC who usually answers the phone and can do all necessary coordination. When reroutes are implemented, they are usually implemented for DFW Terminal, including DAL and other satellites (ADS, RBD, AFW, FTW, etc.).

Major Traffic Flows

DFW Arrivals:

BYP: Aircraft departing the East Coast usually file via J6 LIT BYP. This route contains heavy volume during arrival pushes. In addition to the J6 LIT flow, BYP receives DFW arrivals via RZC FSM from destinations in eastern ZKC, ZAU, ZID and ZOB.

CQY: Aircraft departing ZJX and ZMA destined DFW usually file via AEX CQY. Departures from southern ZDC, ZTL and ZME file via SQS or JAN and the CQY STAR. Also included in the CQY demand are departures from the Houston terminal area.

JEN: Aircraft departing western ZHU, as well as ZLA, ZAB and western ZFW normally utilize the JEN star. JEN volume concerns will be based largely on upper winds. When winds are favorable, users will file NRP from the LA basin airports to the UKW arrival fix, leaving JEN largely unused.

UKW: Traffic departing ZMP, Western ZKC, ZLC, ZSE, ZDV and ZOA utilize the UKW star to DFW. Transitions include flows via IRW, TXO, AMA and BGD.

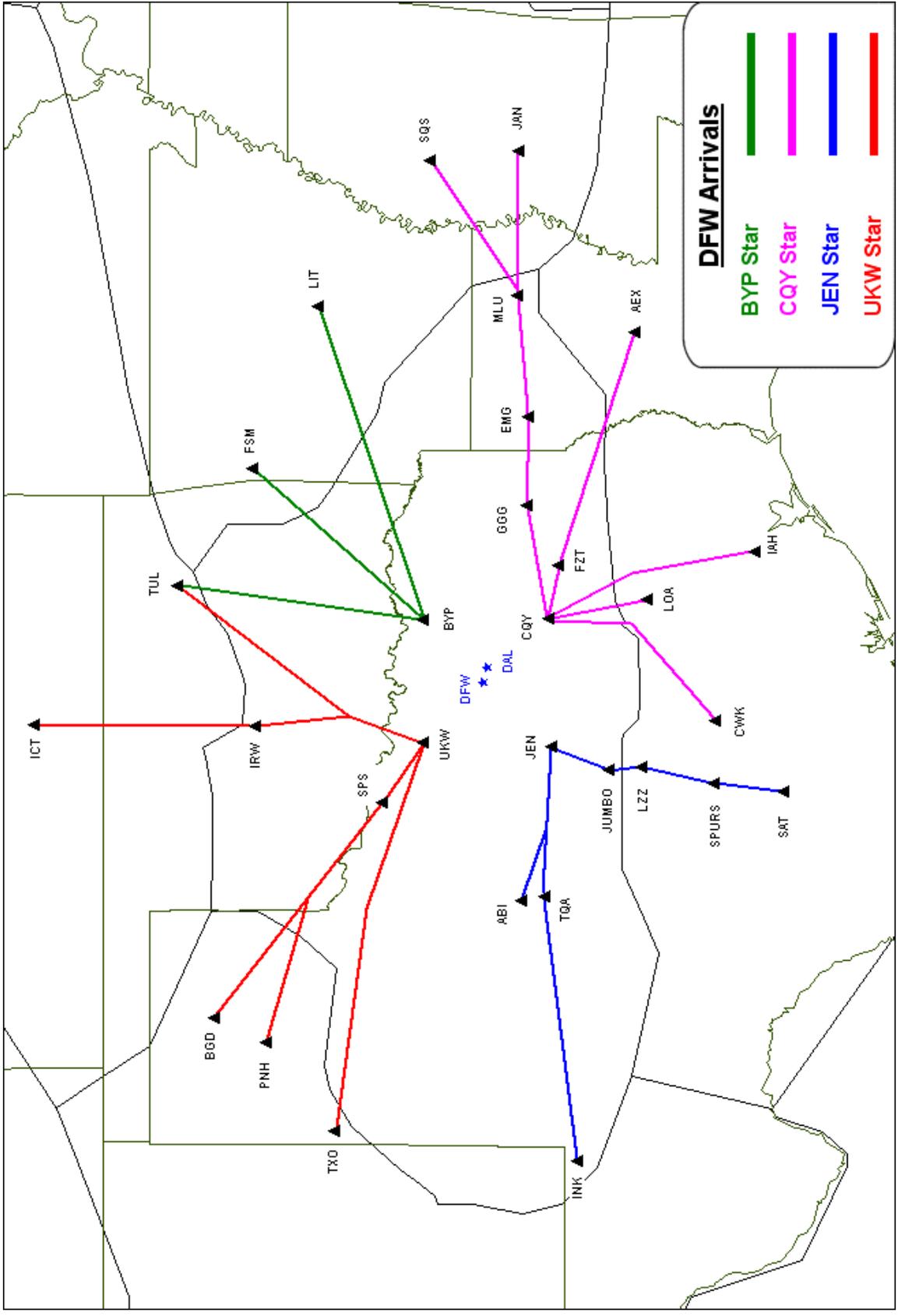
*NOTE - There is also an arrival route for DFW via TUL, joining either the BYP or UKW STAR.

Other Major Traffic Flows:

J180 South.....IAH arrivals

J29/101 North.....IAH to ZAU/STL/ZOB/ZID

J17 Northwest.....ZHU to ZDV/Pacific NW



DFW Departures:

EAST Departures: These are the heaviest departure routes.

LIT (TTT 064R)- DTW/CLE/Western ZID

TXK (TTT 074R) – ZBW/ZNY(except EWR/JFK)/DC Metros

ELD (TTT 084R) – ZTL/LGA/JFK

EIC/SWB (TTT 094R) - ZJX ZMA CARIBBEAN

NORTH Departures:

ADM (FUZ 348R)- ZDV/ZSE/ZOA/ZLC

TUL (FUZ 360R)- ZMP/Western ZKC

OKM (FUZ 012R)- ORD

MLC (FUZ 022R)- STL

WEST Departures:

PNH (TTT 285R)- ZDV/Pacific NW/ZLC

TCC (TTT 275R)- ZOA

LBB (TTT 264R)- LAS/Northern ZLA

ABI (TTT 250R)- Southern ZLA/PHX

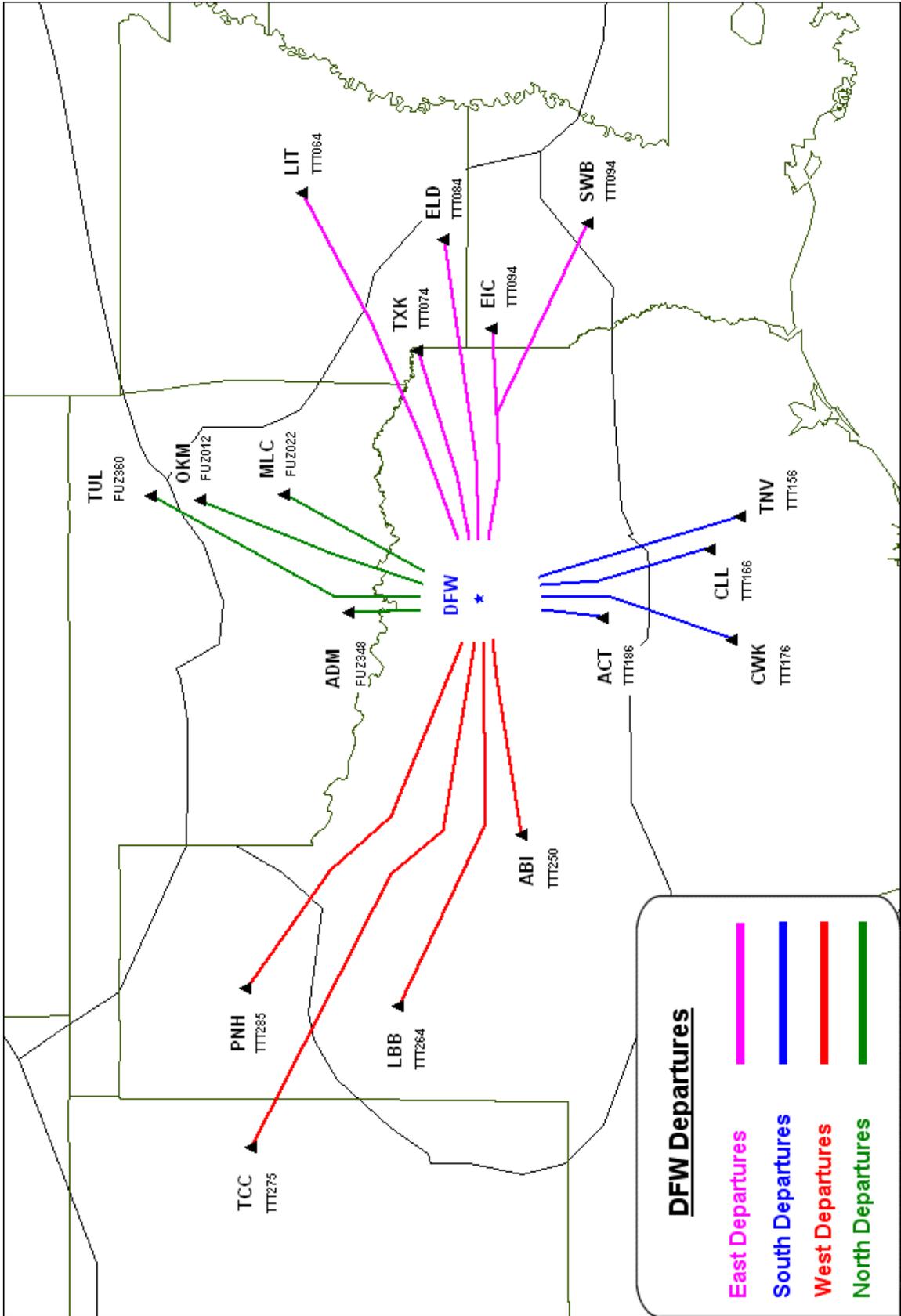
SOUTH Departures:

TNV (TTT 156R)- IAH

CLL (TTT 166R)- HOU

CWK (TTT 176R)- Southern TX/Mexico

ACT (TTT 186R)- SAT/Western Mexico



Common Reroutes

Arrivals:

BYP impacted:

FSM BYP - reroute to TUL UKW or ICT IRW UKW

LIT BYP – reroute to SQS CQY or BWG ARG FSM BYP

CQY impacted:

ZTL/ZME – reroute to LIT BYP

FLA – reroute to LIT BYP or IAH J86 SPURS LZZ JEN

IAH/HOU- IAH J86 SPURS LZZ JEN

JEN impacted:

South TX - CWK CQY

West Coast -UKW

UKW impacted:

ZMP/western ZKC - TUL BYP

Pacific Northwest - ABI JEN

Departures:

Departure swap at DFW is generally accomplished through CDRs.

NAVAIDS

ABI	Abilene	CVE	Cowboy	JEN	Glen Rose
ACT	Waco	EIC	Belcher	MLC	McAlester
ADM	Ardmore	ELD	El Dorado	MQP	Millsap
AMA	Amarillo	EMG	Elm Grove	OKM	Okmulgee
BGD	Borger	FUZ	Ranger	SPS	Wichita Falls
BGS	Big Springs	IFI	Kingfisher	TXK	Texarkana
BYP	Bonham	INK	Wink	TXO	Texaco
CQY	Cedar Creek	IRW	Will Rogers	UKW	Bowie

Special Use Airspace

When swapping to the UKW STAR through ZKC, R-5601 will, when active, require the addition of SYO to avoid the restricted area.

ZHU

Overview

ZHU TMU does not have specialists for specific airports. Any TMC can do all necessary coordination.

Major Traffic Flows

J2 East - IAH to ZBW/ZNY/ZDC/ZTL

J2 West - Florida to Texas

J86/Q100/Q102 East - Texas to Florida (overwater)

J86/Q100/Q102 West - Florida to Texas (overwater)

J33 North - IAH to DFW

J87 South - DFW to IAH

J29/J101 Northeast - ZHU to ZBW/ZNY

J86 West - (west of IAH) - IAH to ZAB/ZLA/ZOA

Common Reroutes

IAH to ZSE/ZOA/ZLC - reroute via CWK LLO ABI points to join

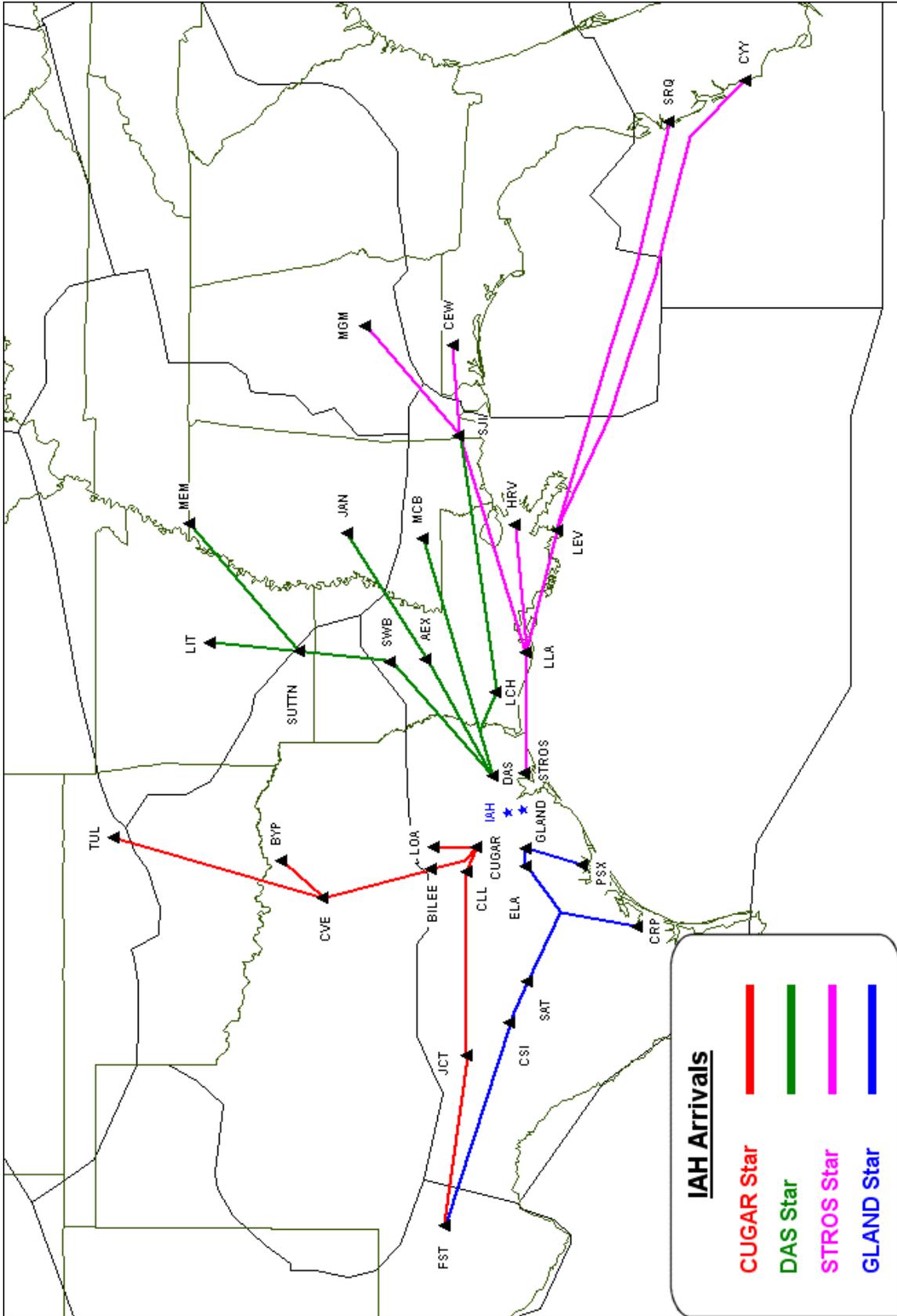
IAH J29/J101 departures - reroute via J22 MCB MEM points to join

IAH to ZLA/ZAB - reroute via PSX CRP DLF FST points to join

IAH to ZMP/ZAU - reroute via LOA RIKKS CQY BYP TUL J87 IRK

IAH J180 arrivals - via LIT J66 BYP CVE J87 BILEE

IAH arrivals normally via JAN AEX - via SJI STROS STAR



NAVAIDS

AEX	Alexandria	IAH	Humble	PSX	Palacios
CLL	College Station	JCT	Junction	SAT	San Antonio
CRP	Corpus Christie	LEV	Leeville	SBI	Sabine Pass
CSI	Centerpoint	LFK	Lufkin	SJI	Semmes
CWK	Centex	LLA	White Lake	SWB	Sawmill
DAS	Daisetta	LLO	Llano	TNV	Navasota
GCV	Greene County	LRD	Laredo		
HRV	Harvey	MCB	McComb		

Special Use Airspace

There are no SUAs in ZHU that would normally have an impact on reroutes.

ZID

Overview

ZID has a specialist assigned as the coordinator. This specialist usually answers the phone and can do all necessary coordination, except for CVG. One specialist is assigned to CVG and that specialist must be included when discussing CVG arrivals or departures.

Major Traffic Flows

J29 NE.....Texas to DTW, CLE, New York metros, and ZBW
J29 SW.....ZOB to Texas and ZME
J6 SW.....ZBW/ZNY/ZDC to DFW/BNA/MEM
J42 NE....Texas and ZME to Washington and New York metros.
J80 W.....ZNY and PIT to CVG, IND, STL, MCI, and points west.
J134 W.....Washington, DC metros to CVG, MCI, DEN and points west.
J149 W.....Washington, DC metros to ORD
J89 N.....ZTL, ZJX, ZMA, to ORD, MSP
J43 N.....ZTL, ZJX, ZMA to CVG, CLE, DTW
J43 S.....DTW, CLE to ATL and Florida
J73 S.....ORD to Florida
J83 S.....CLE, PIT to Florida

Common Reroutes

En route:

If J80 is unusable, reroute this traffic to J60/64 thru ZOB. If those airways are not available, swap J80 to J6 and swap J6 to J48/J22 thru ZDC and ZTL.

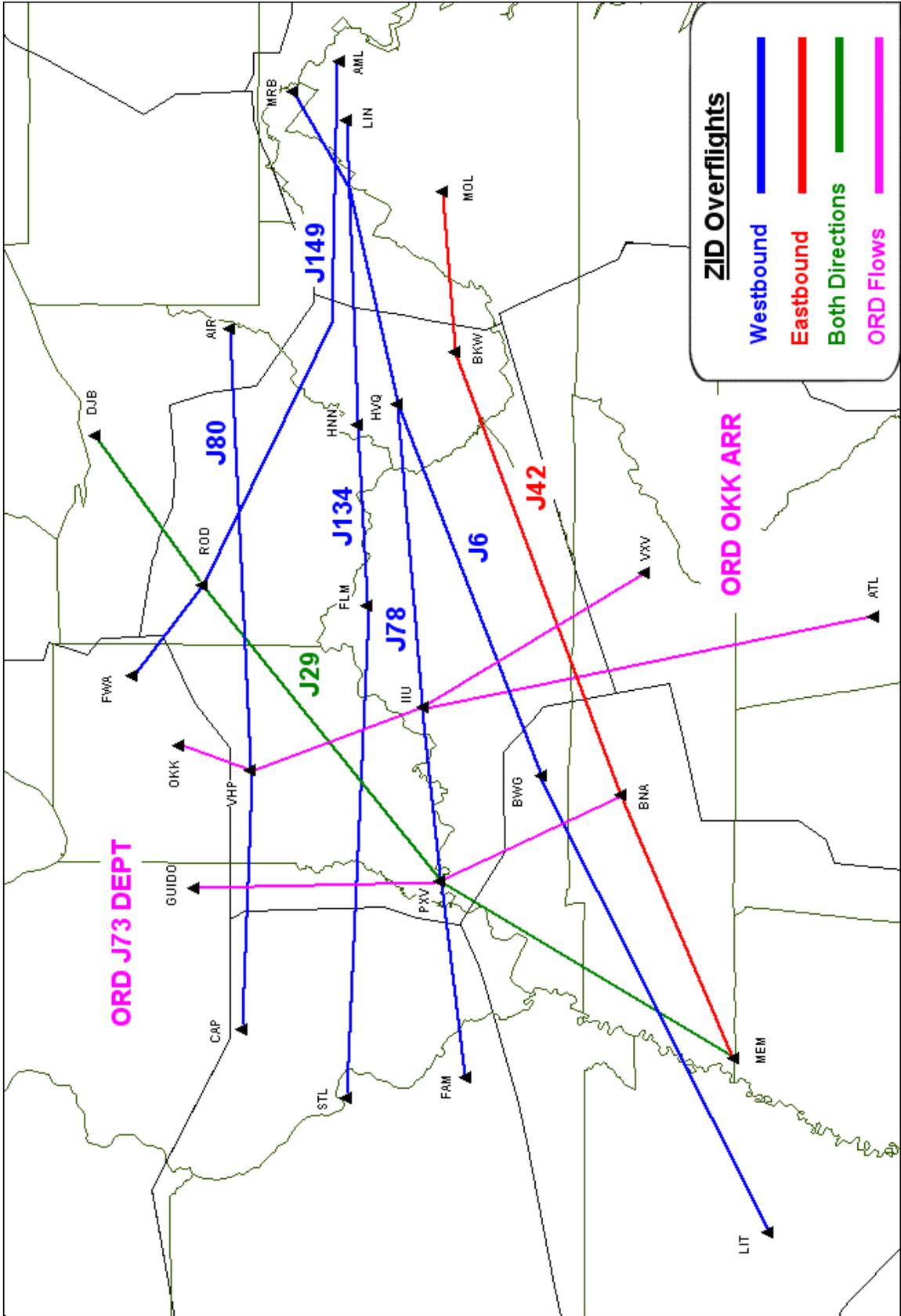
If J6 is unusable, reroute ZBW and ZNY traffic to J80/29 and the ZDC traffic via J48/22. At times, all the J6 traffic must be routed via J48/22.

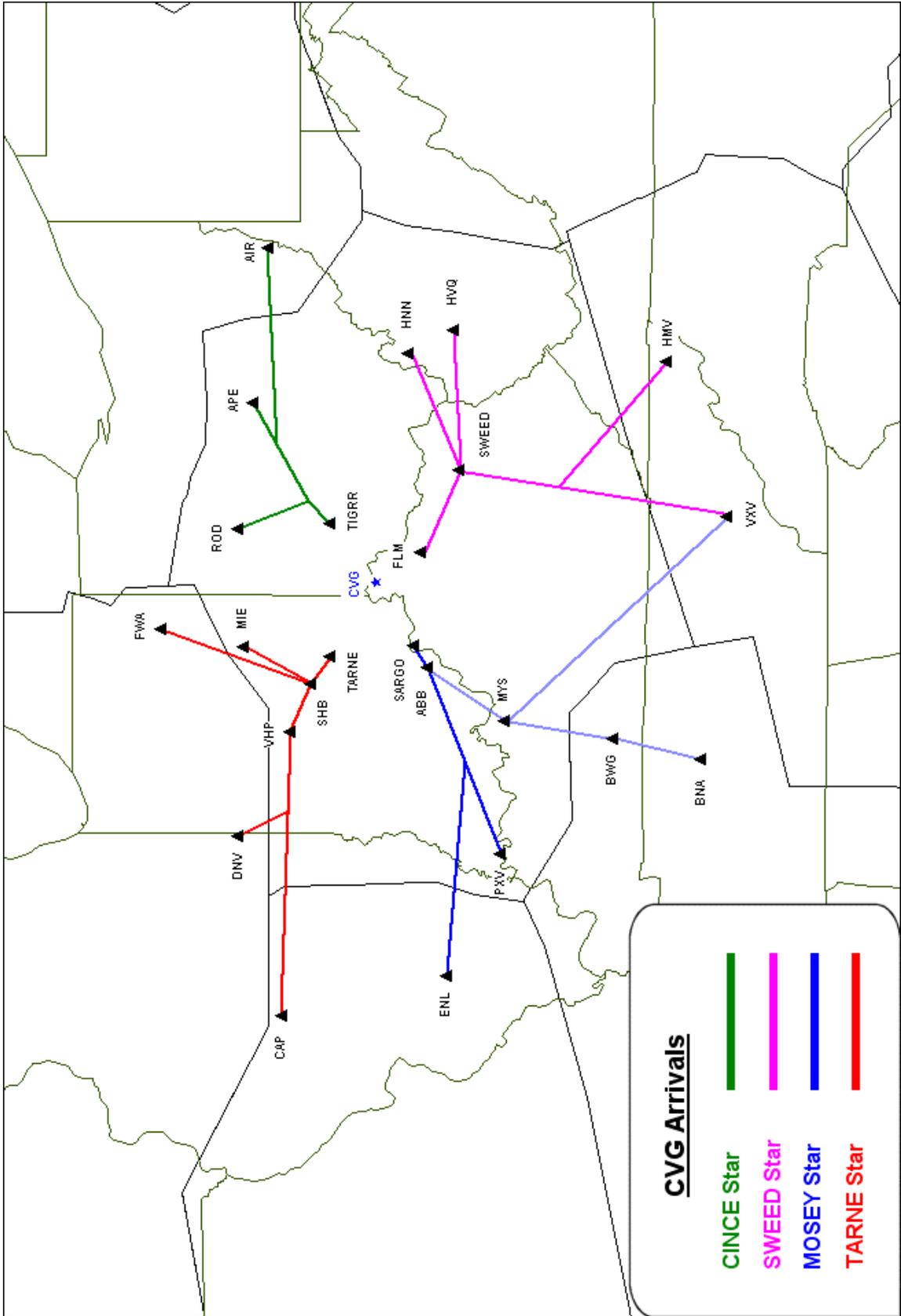
If J42 is unusable, reroute ZFW departures to ZBW and ZNY via J29, thru ZOB, or via J52 ATL and onto those prefs. Reroute the ZFW departures to the Washington, DC metros and PHL over ATL, as well.

If J73 is unusable, ORD departures to ATL and Florida may be rerouted to CDRs via RBS, thru ZKC. Sometimes the traffic can be swapped east thru ZOB/ZID via CDRs via GIJ GERBS

If J89 is unusable, ORD arrivals via VHP should be swapped west thru ZME/ZKC via BNA STL MAGOO BDF. MSP arrivals may be moved west to BNA STL IOW ALO.

If J43 is unusable, DTW and CLE departures to ATL and Florida may be rerouted via J83.





CVG

CVG has become a major concern for ZID. A specialist is assigned to manage CVG arrivals and departures. Usually, CVG alternates arrival banks from the east and west.

NAVAIDS

ABB	Nabb	FLM	Falmouth	ROD	Rosewood
APE	Appleton	HNN	Henderson	TTH	Terre Haute
BKW	Beckley	HVQ	Charleston, WV	VHP	Brickyard
CVG	Cincinnati	IU	Louisville	TTH	Terre Haute
DQN	Dayton	PXV	Pocket City		

Special Use Airspace

The Buckeye MOA lies between HNN and ROD. This may cause problems when swapping traffic off of J149.

ZJX

Overview

The TMC/TMCIC answering the phone will be able to handle any/all coordination related to ZJX operations. During SVRWX season, ZJX utilizes an internal playbook along with capping and tunneling procedures for MCO/TPA. Most of these traffic management initiatives are internal and do not impact ZJX first tier facilities.

Major Traffic Flows

ZBW/ZNY/ZDC to east coast of FLA (including MCO) - ILM ARs to south FLA, if not over-water equipped - via CHS J79 OMN.

ZBW/ZNY/ZDC to west coast of FLA - J75

ZHU/ZFW/Mid-west and points west - SZW J43 for inland routes or Gulf routes (Q100/Q105) for over-water equipped.

East coast of FLA to ZHU/ZFW/Mid-west and points west - Via LAL

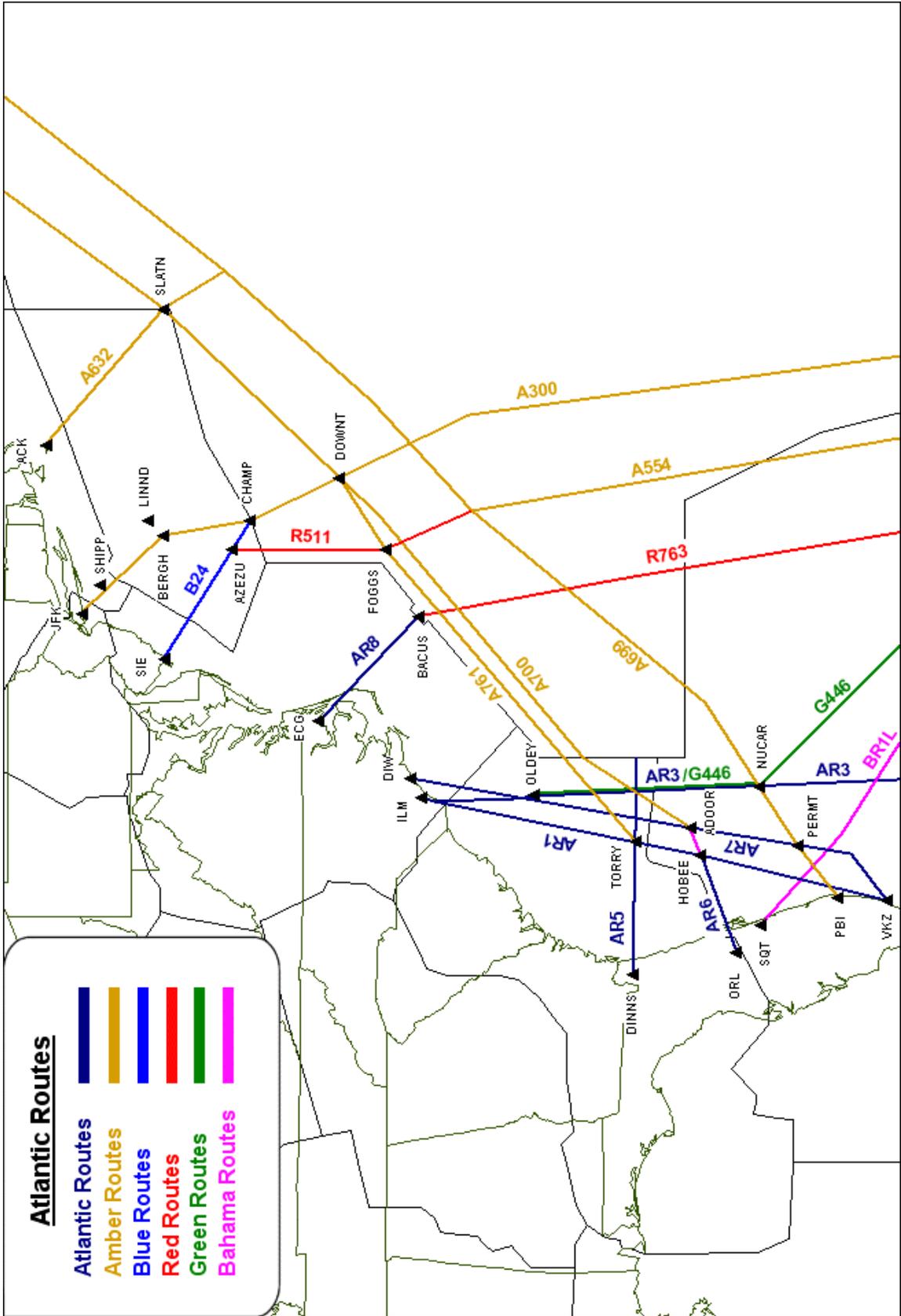
East coast of FLA to ZBW/ZNY/ZDC - via ORL

West coast of FLA to ZHU/ZFW/Mid-west and points west - Via CTY

West coast of FLA to ZBW/ZNY/ZDC - Via TAY/ORL

Atlantic Routes (ARs)

The AR routes are two-way airways. AR routes are essentially corridors through the east coast warning areas and large deviations (20 miles or more) cannot be accommodated.



Common Swaps

To FL

From ZBW/ZNY/ZDC:

ARs closed - reroute via J79 OMN

ARs and J79 closed - reroute via J75 TAY PIE

ARs, J79 and J75 closed - reroute via J48 MOL J22 PSK J53 SPA J85 TAY PIE

From ZHU/ZFW/Mid-west and points west:

Q100/Q105 closed - reroute via SZW CEW J2/J50

Q100/Q105, J2/J50 closed - reroute via SZW MGM or SZW VUZ

From FL

ARs closed - ORL J53 CRG J51

ARs and ORL closed - via LAL TAY CAE J51

ARs, ORL, LAL closed - via PIE SZW (ZJX/ZMA will then shift arrivals further west into Gulf i.e. PIE270045 to accommodate this).

NAVAIDS

AMG	Alma, GA	GNV	Gainesville	PIE	St. Petersburg
CAE	Columbia	LAL	Lakeland	SAV	Savannah
CEW	Crestview	LBV	LaBelle	SRQ	Sarasota
CHS	Charleston, SC	OMN	Ormand Beach	SZW	Seminole
CRG	Craig	ORL	Orlando	TAY	Taylor
CTY	Cross City	OTK	Valdosta	VAN	Vance
FLO	Florence	PBI	West Palm Beach	VQQ	Cecil

Special Use Airspace

Warning areas off the east coast of Florida are controlled by SEALORD. Warning areas off the west coast of Florida and Gulf of Mexico are a conglomeration.

Space (missile/ Shuttle) Launches

ZMA is the controlling agency for missile or shuttle launches, but ZJX implements the restrictions/reroutes. During shuttle launches, the ARs are generally closed. Missile launches have a little less impact and ARs are still used at times.

ZKC

Overview

ZKC TMU is comprised of two ESP positions (STL/ORD), floor-walkers, and the TMS/TMCIC. The TMS/TMCIC that answers the phone should be able to handle any/all coordination related to ZKC operations including STL or ORD.

Major Traffic Flows

ORD departures via RBS and MZV

ZNY departures via J80 to LA basin, STL, and MCI

Washington, DC metro departures via J134 to PHX, ZLA and DEN

ORD arrivals via J96

ORD arrivals via J101/181

Common Reroutes

If J80 is unusable and the WX activity is in the vicinity of CAP, a reroute via VHP J24 MCI is possible. Otherwise, swap the traffic to J134. To accommodate this, traffic normally on J134 may need to be rerouted via J78, depending on sector volume. If necessary, J80 could also be swapped to J64 and out of ZKC. J60/64/80/134/78 may all be moved in the same manner.

ORD departures via RBS STL impacted, reroute to CDRs via MZV IRK/MZV J18 or GUIDO J73 PXV.

ORD departures via MZV IRK/MZV J18 impacted, reroute to CDRs via RBS STL or MZV LMN.

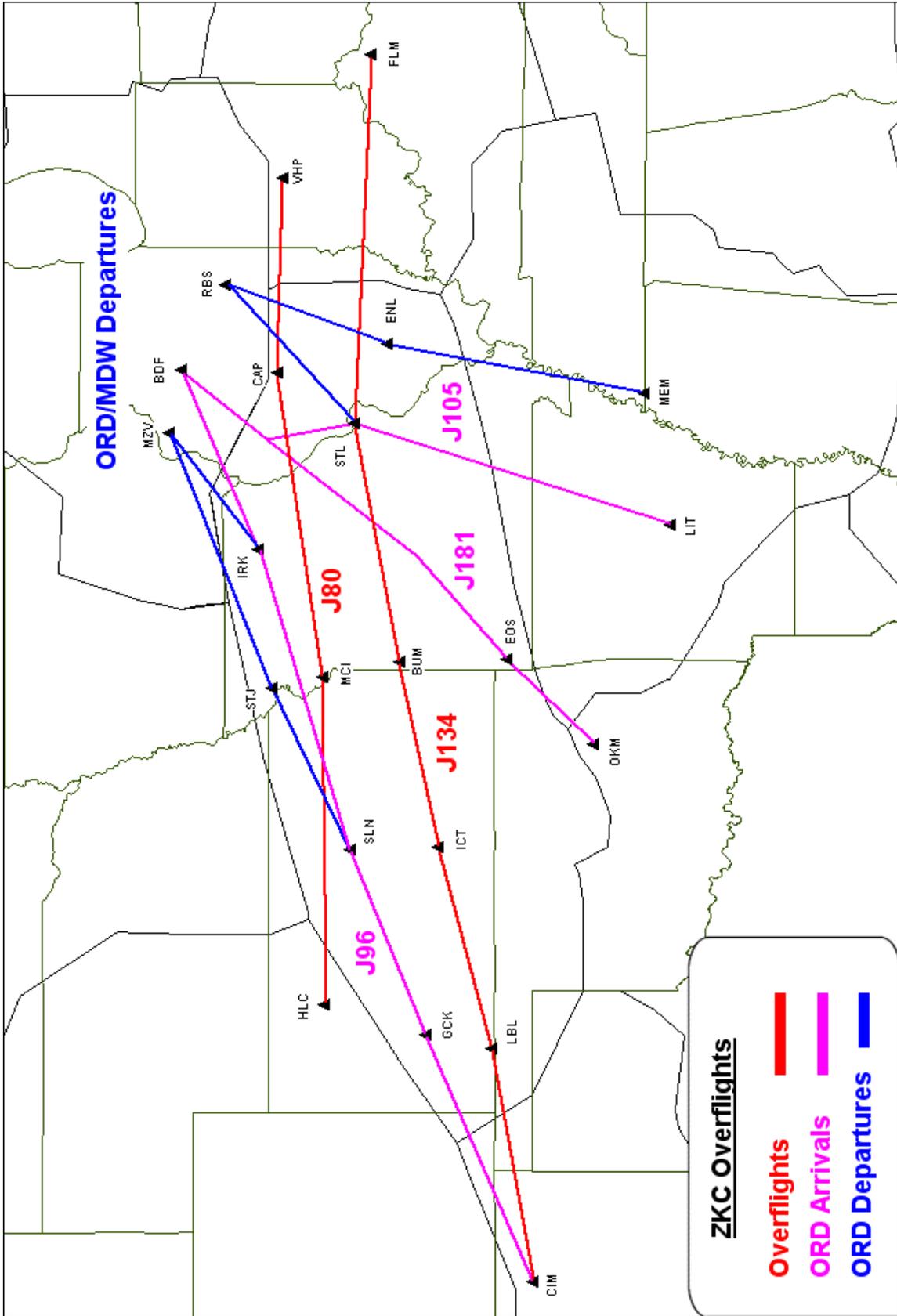
ORD arrivals via J96 impacted, reroute via J19/J105 BDF or through ZMP.

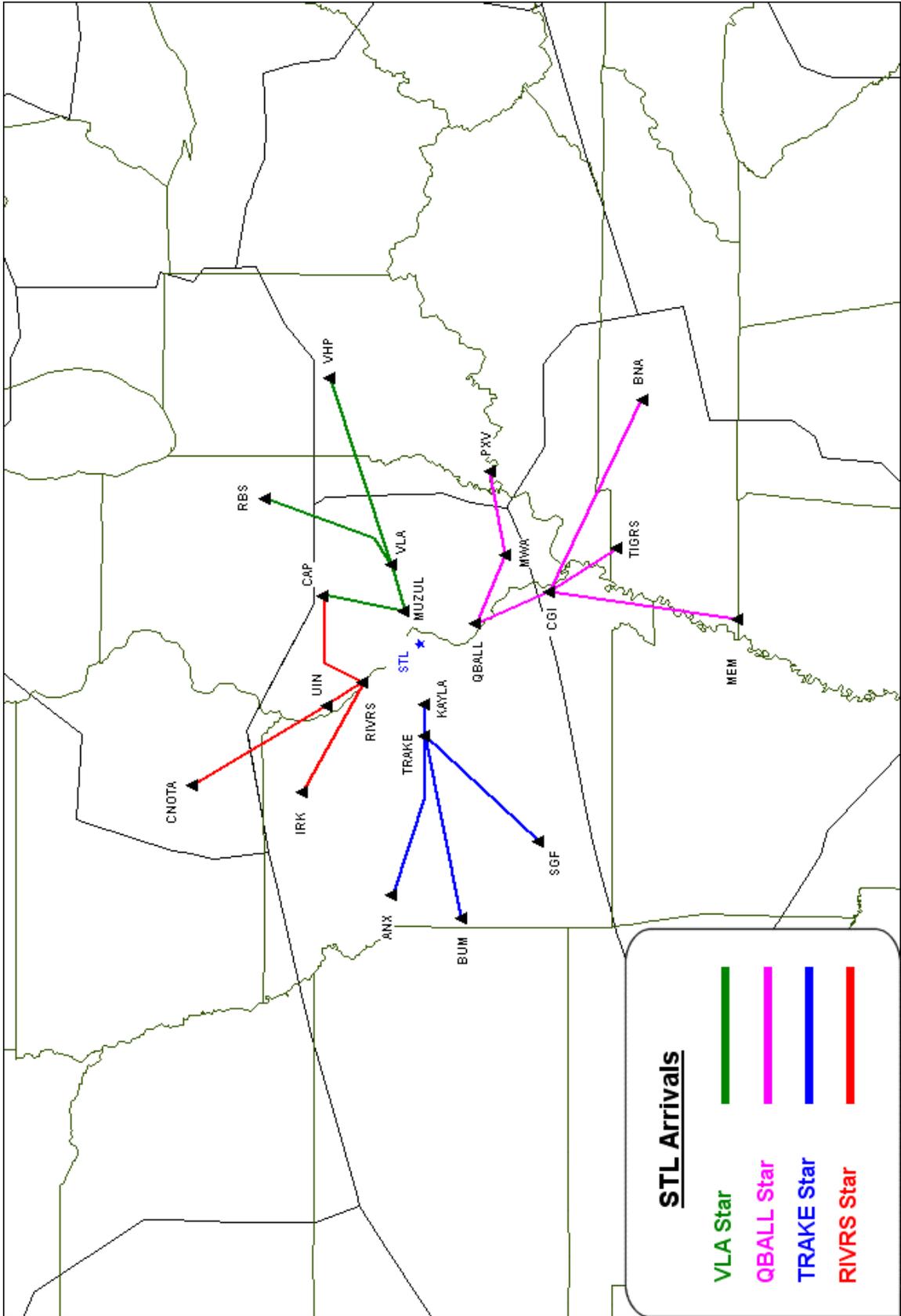
ORD arrivals via J101/181 impacted, reroute via J87 IRK, J25 MKC IRK or reroute through ZID.

At times, ORD arrivals from the SE U.S. must be swapped via J45 STL MAGOO. To accommodate the additional traffic, ZFW/ZHU departures to ORD may be swapped via J87 IRK BDF. Additionally, flights departing or traversing ZAU to ZFW may be rerouted via MZV J87 TUL for sector volume issues.

ZKC will often handle STL arrivals and departures from the west internally, due to the amount of internal airspace available. STL arrivals and departures from the east may require the assistance of adjacent facilities to reroute around impacted areas, either by playbook reroute, dynamic reroute or CDR.

The route through ZKC airspace to CVG is via ENL MOSEY. If thunderstorms are impacting the route, swapping the traffic through ZAU or ZME is normally possible.





NAVAIDS

BUM	Butler	GCK	Garden City	PER	Pioneer
CAP	Capitol	HYS	Hays	SGF	Springfield
ENL	Centralia	ICT	Wichita	SLN	Salina
EOS	Neosho	IRK	Kirksville	STJ	St. Joseph
FAM	Farmington	LBL	Liberal	STL	St. Louis
GAG	Gage	MKC	Kansas City	TUL	Tulsa

Special Use Airspace

There are no SUAs in ZKC that would normally have an impact on reroutes.

ZMA

Overview

The TMC/TMCIC answering the phone will be able to handle any/all coordination related to ZMA operations.

Major Traffic Flows

ZBW/ZNY/ZDC to east coast of FLA (including MCO) - ILM ARs to south FLA, if not over-water equipped - via CHS J79 OMN.

ZBW/ZNY/ZDC to west coast of FLA - J75

ZHU/ZFW/Mid-west and points west - SZW J73 for inland routes or Gulf routes (Q100\Q102) for over-water equipped.

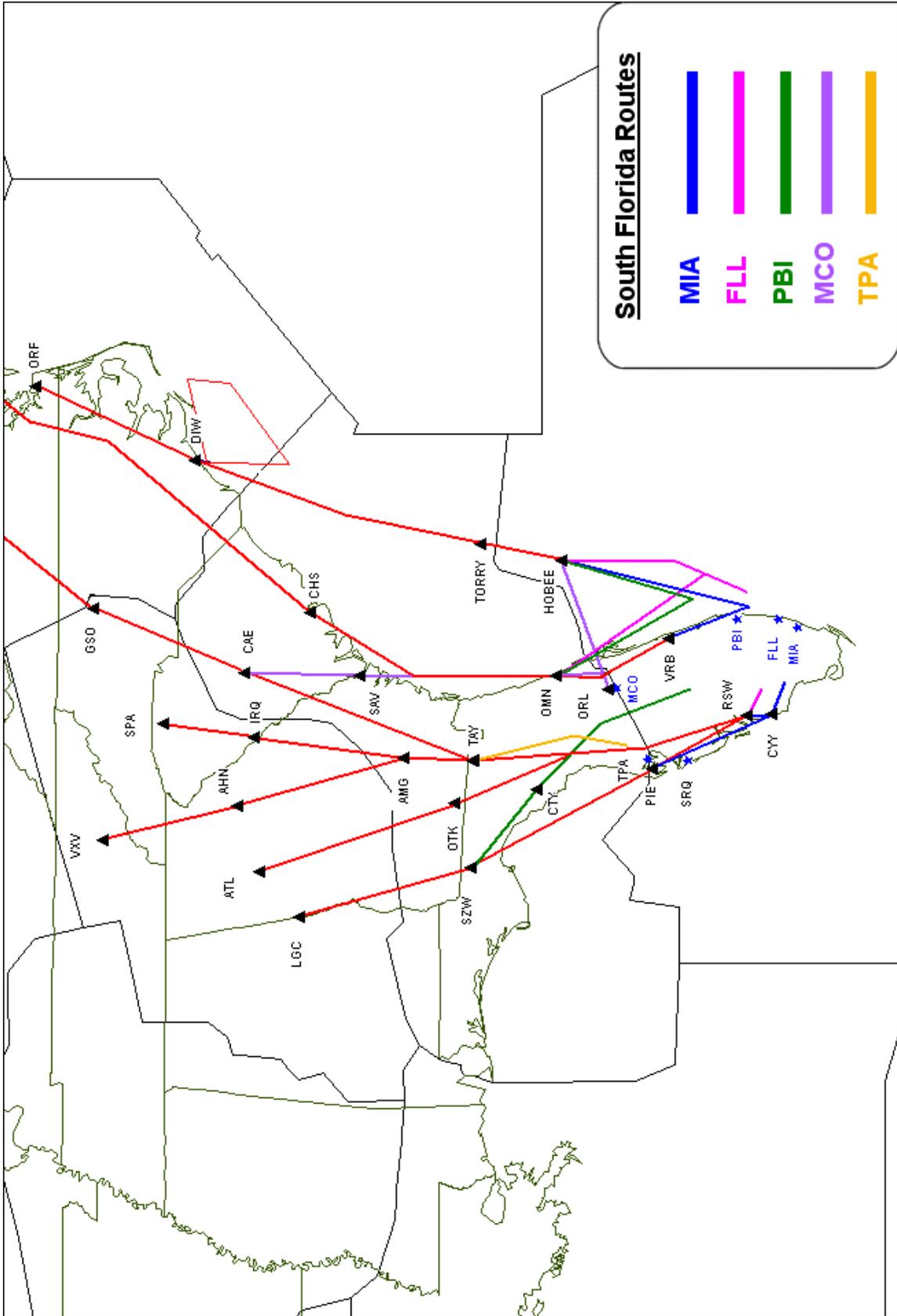
East coast of FLA to ZHU/ZFW/Mid-west and points west - Via LAL
East coast of FLA to ZBW/ZNY/ZDC - via ORL

West coast of FLA to ZHU/ZFW/Mid-west and points west - Via CTY
West coast of FLA to ZBW/ZNY/ZDC - Via ORL

Atlantic Routes (ARs)

Although the AR routes are two-way airways further north, in ZMA they are really one-way routes. AR-1 is used as a southbound arrival route, AR-7 is used as a northbound departure route and AR-3 is generally utilized (two-way) for aircraft into or out of the Caribbean\ocean.

The AR routes often serve as corridors through the east coast warning areas, and large deviations (20 miles or more) cannot normally be accommodated.



Common Swaps

To FL:

From ZBW/ZNY/ZDC:

ARs closed - reroute via J79 OMN

ARs and J79 closed - reroute via J75 TAY PIE

ARs, J79 and J75 closed - reroute via J48 MOL J22 PSK J53 SPA J85 TAY PIE

From ZHU/ZFW/Mid-west and points west:

Q100\Q102 - closed - reroute via J2/J50 CEW SZW

Q100\Q102- J2/J50 closed - reroute via MGM SZW or VUZ SZW

From FL:

ARs closed - ORL J53 CRG J51

ARs and ORL closed - via LAL J73 J119 TAY

ARs, ORL, LAL closed - via PIE SZW\CTY (ZJX/ZMA will then shift arrivals further west into Gulf i.e. PIE270045 to accommodate this).

NAVAIDS

CYY	Cypress	PBI	West Palm Beach	SZW	Seminole
DPH	Dolphin	PHK	Pahokee	VKZ	Virginia Key
LAL	Lakeland	PIE	St. Petersburg	VRB	Vero Beach
OMN	Ormand Beach	RSW	Fort Meyers		
ORL	Orlando	SRQ	Sarasota		

Special Use Airspace

Warning areas off the east coast of Florida are controlled by SEALORD. Warning areas off the west coast of Florida and Gulf of Mexico are a conglomeration.

Space (missile/ Shuttle) Launches

ZMA is the controlling agency for missile or shuttle launches, but ZJX implements the restrictions/reroutes. During shuttle launches, the ARs are generally closed. Missile launches have a little less impact and ARs are still used at times.

ZME

Overview

ZME

Due to ZME's proximity to major hubs in their first tier centers, they monitor many different airport flows.

Major Traffic Flows

J105 North.....ZFW to ORD
J101 North.....ZHU to ORD
J6 Southwest.....ZBW/ZNY/ZDC to DFW/BNA/MEM
J42 Northwest....DFW/MEM to DC METROS/ LGA/PHL
J29 North.....IAH to ZOB/ZNY/ZBW
.....MEM to ORD/ZOB/ZBW
J41 North.....ATL to ZKC/ZDV
J41 South.....ZDV/West ZKC to Florida
J22 Southwest....ZBW/ZNY/ZDC to IAH
J52 East.....DFW to ZBW/CLT/EWR/JFK
J4 East.....DFW to ZTL
J151.....STL Arrivals from ZJX/ZMA
J180.....ZOB/ZID/ZAU/East ZKC to IAH
J73.....ZAU to ZJX/ZMA

Common Reroutes

J6 impacted - ZBW reroute via SYR J29 PXV J131 LIT BYP
ZNY reroute via ELIOT J80 J29 PXV then above
ZDC - reroute via J48 MOL J22 VXV BNA LIT BYP
(BNA via PXV/VXV direct MEM via PXV direct or VXV BNA direct)

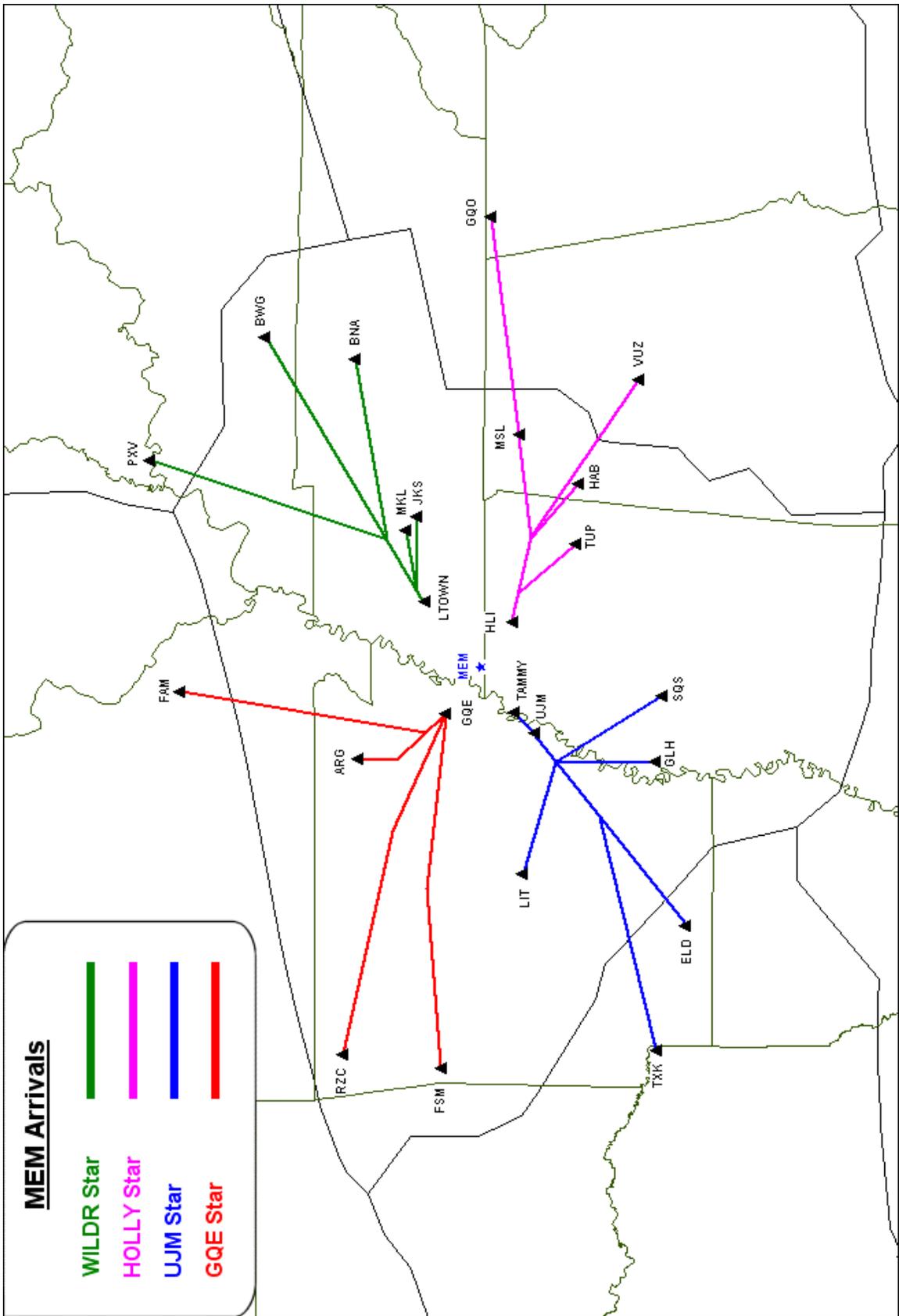
J42 impacted - Reroute via overhead ATL SPA to join east coast prefs

DFW arrivals via LIT impacted- via BWG RZC FSM BYP or BWG SQS CQY

IAH arrivals via J180 impacted - via- J66 BYP CVE J87 BILEE

IAH departures via J29/J101 impacted - via- J22 MCB MEM

If weather is affecting ORD landing traffic in ZID, reroute via BNA J45 STL STL349 MAGOO from ZMA/ZJX/ZTL is an option traversing ZME.



MEM

MEM has a large volume of cargo flights (FedEx hub) during the midnight shift. On numerous occasions during the severe weather season, it is necessary to reroute these cargo flights.

NAVAIDS

ARG	Walnut Ridge	IGB	Bigbee	MEM	Memphis
BNA	Nashville	JAN	Jackson	RZC	Razorback
BWG	Bowling Green	LIT	Little Rock	SQS	Sidon
FSM	Fort Smith	MEI	Meridian		

Special Use Airspace

There are no SUAs in ZME that would normally have an impact on reroutes.

ZMP

Overview

ZMP TMU is staffed with three operating positions: ASP, ESP and SWAP. The SWAP position deals primarily with severe weather issues. During especially busy periods, the ESP position will also answer the severe weather line. The ASP position deals primarily with MSP arrivals and departures.

Commonly Used Swaps

ZMP is often tasked with managing transcontinental flights via the playbook Canadian Routes. Volume is often a concern on these routes, especially given the large sector sizes in northern ZMP. If multiple Canadian Routes are run, they will very likely still transition through the same eastern sector in ZMP.

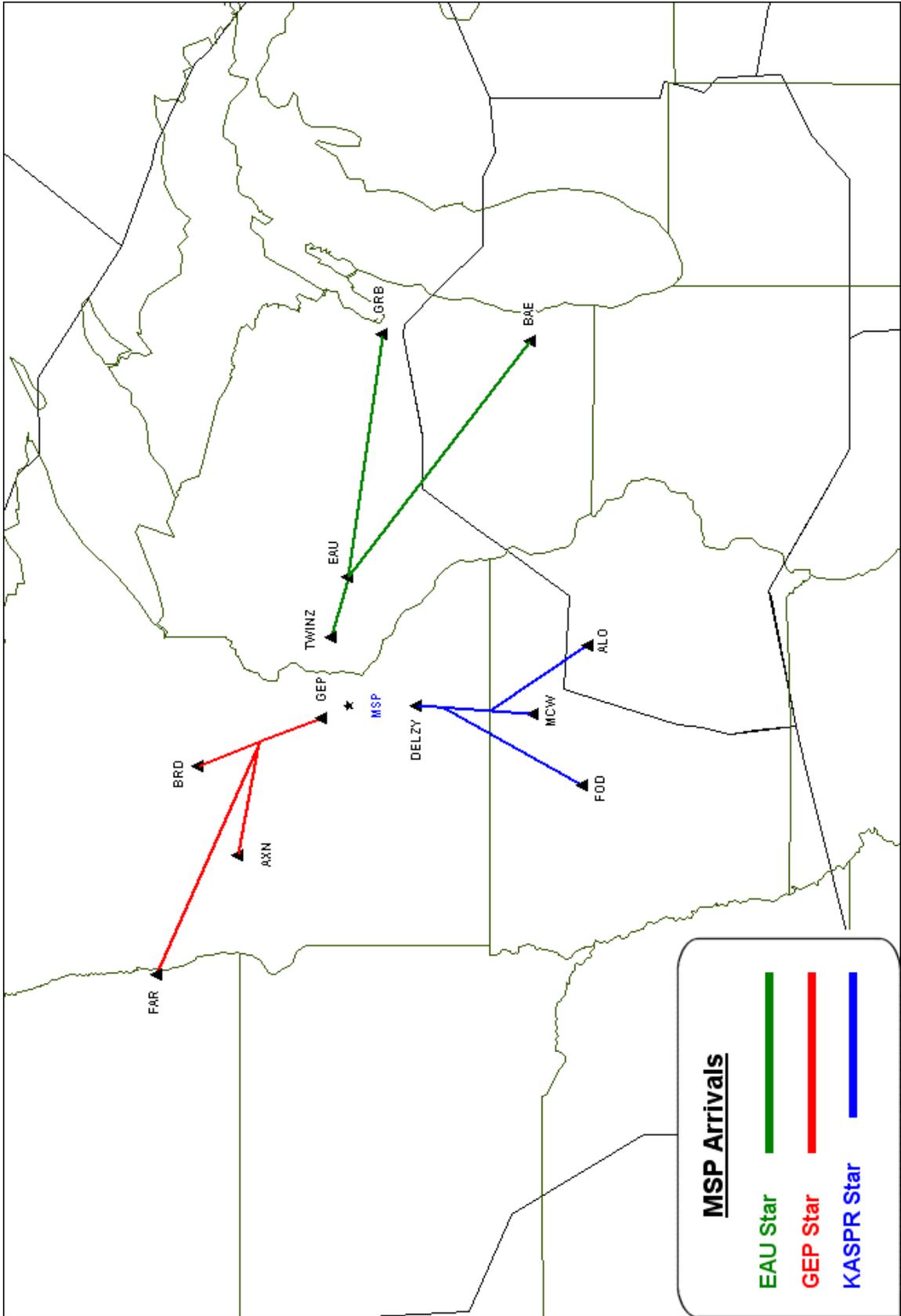
MSP arrival swap is usually accomplished via the playbook. Departure swap at MSP is generally accomplished through CDRs.

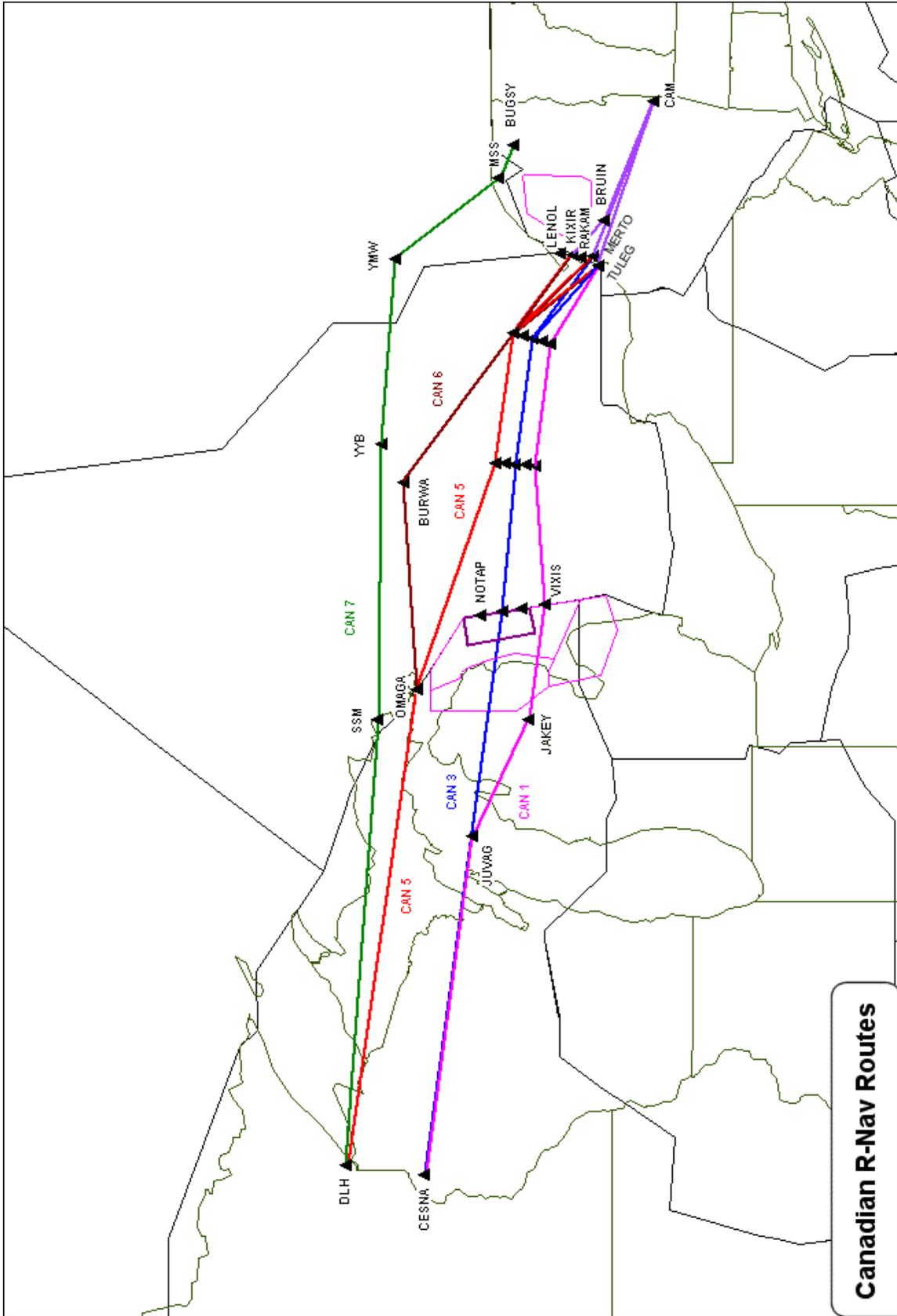
NAVAIDS

ABR	Aberdeen	FSD	Sioux Falls	ODI	Nodine
ASP	Au Sable	GEP	Gopher	ONL	O'Neill
BRD	Brainerd	GRB	Green Bay	OVR	Omaha
DIK	Dickinson	HML	Humboldt	PWE	Pawnee City
DLH	Duluth	LMN	Lamoni	RWF	Redwood Falls City
DPR	Dupree	LNK	Lincoln	SSM	Sault Ste Marie
DSM	Des Moines	MCW	Mason City	TVC	Traverse City
FAR	Fargo	MOT	Minot		
FOD	Fort Dodge	OBH	Wolbach		

Special Use Airspace

If active, R-4207 and the Pike MOA/ATCAA complex in eastern ZMP may conflict with reroutes through Canadian airspace. The Playbook Canadian Routes have been developed to avoid or minimize this impact.





Canadian R-Nav Routes

ZNY

Overview

ZNY TMU usually operates with 3 to 4 specialists and a supervisor. SVRWX primarily coordinates with the Departure Director (DD).

During SWAP, the DD communicates directly with the towers regarding the lineup for departure, and ensures the Departure “Pit” at ZNY has entered the appropriate routes into the flight plans. The Traffic Management Director, who keeps an overall log of departure/arrival restrictions and misc. activities, primarily answers the ZNY line. A third specialist, the Arrival Director, watches the airports and implements MIT as well as monitors sector alerts. The STMC usually does not answer the phone unless a disagreement with another facility or DCC exists. An Oceanic Planner position is functional for issues such as oceanic track implementation. However, it may be necessary to contact the Area Supervisor using the “ZNY.CARIB” line for AR route issues, oceanic routings to the Caribbean, etc. The “ZNY.N.ATL” line is the North Atlantic Supervisor who works NAT track issues to and from Europe/Iberian Peninsula.

NRP flights frequently overload the ZNY departure gates, requiring fix balancing reroutes for delay mitigation. ZNY will normally call requesting to move some of these NRP flights to the preferential routes.

Major Traffic Flows

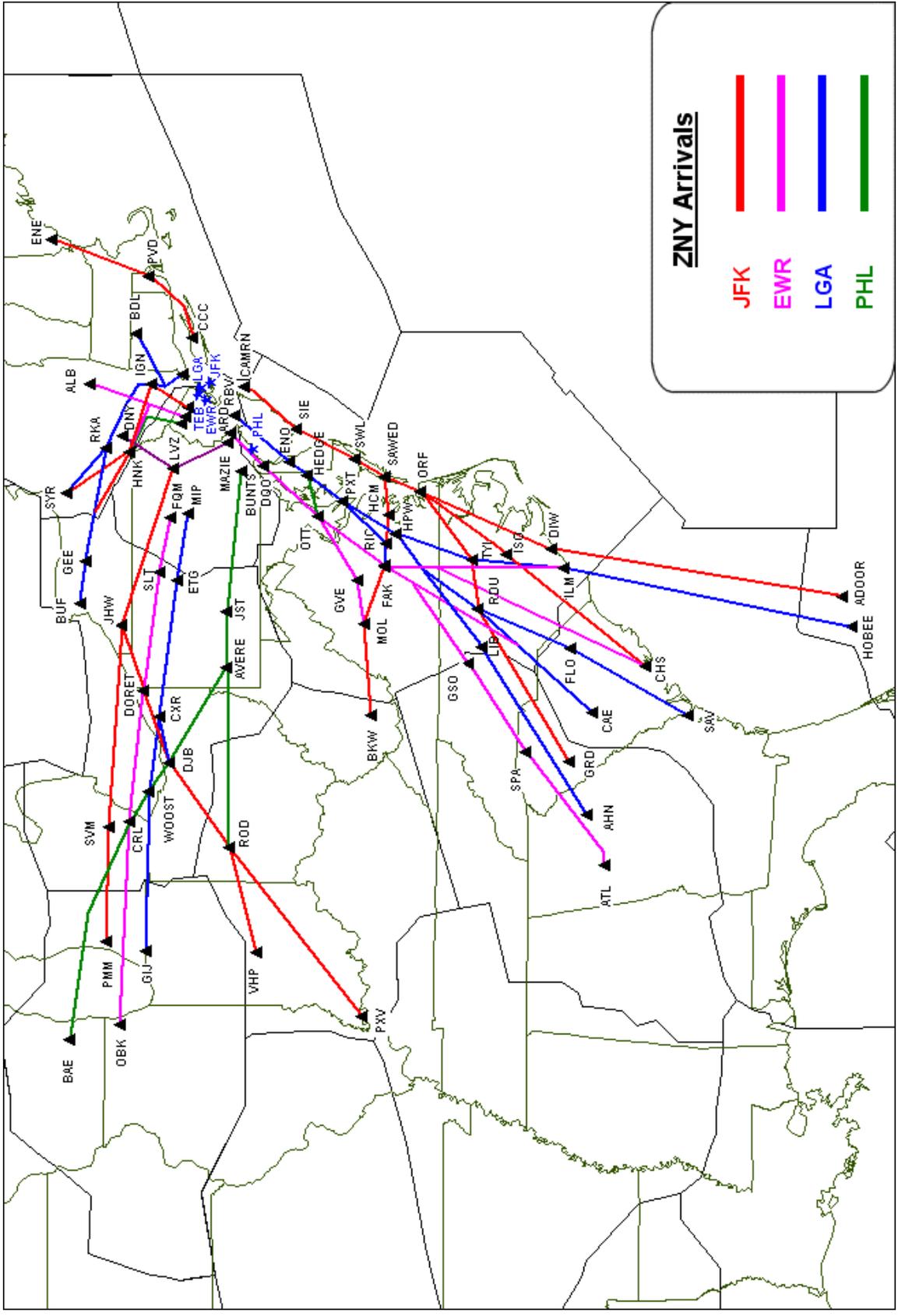
Arrivals:

JFK: JHW J70 LVZ LENDY STAR
ACY V44 CAMRN

EWR: SLT J584 FQM PENNS
** ZNY Ocean also feeds EWR & JFK from Caribbean/N. Atlantic

LGA: ETG J146 MIP LIZZI

PHL: JST J152 HAR BUNTS
LHY LVZ ETX MAZIE
HTO V139 BRIGGS VCN



Departures:

NOTE: Airlines routinely file NRP between the north & westgates. It is important to determine where the heavy concentration of NRP traffic exists when considering swapping flows.

Northgates - N90

GAYEL J95.....ZMP/ZOA/ZLC/ZMP/SYR/ROC/YYZ

NEION J223.....DTW/BUF

COATE J36.....ORD/MKE/PIT/ELM

Westgates - N90 (minus JFK)

ELIOT J60/J64....ZOB/ZDV

ELIOT J80.....ZKC/ZLA/ZAB/ZKC/ZID (minus CVG)

PARKE J6.....ZFW/ZME/CVG

LANNA J48.....ZTL/ZHU/ATL

BIGGY J75CLT/West Florida

RBV J64/J80/J6/J48/J75 (JFK departures)...All above destinations plus IAD/DCA/BWI

WHITE J209MCO/East Florida/RDU (N90 -JFK departures)

WAVEY J121/J174....Same as WHITE for JFK departures

Eastgates - N90

GREKI, & MERIT.... Cleared by ZNY, N90 hands off directly to ZBW

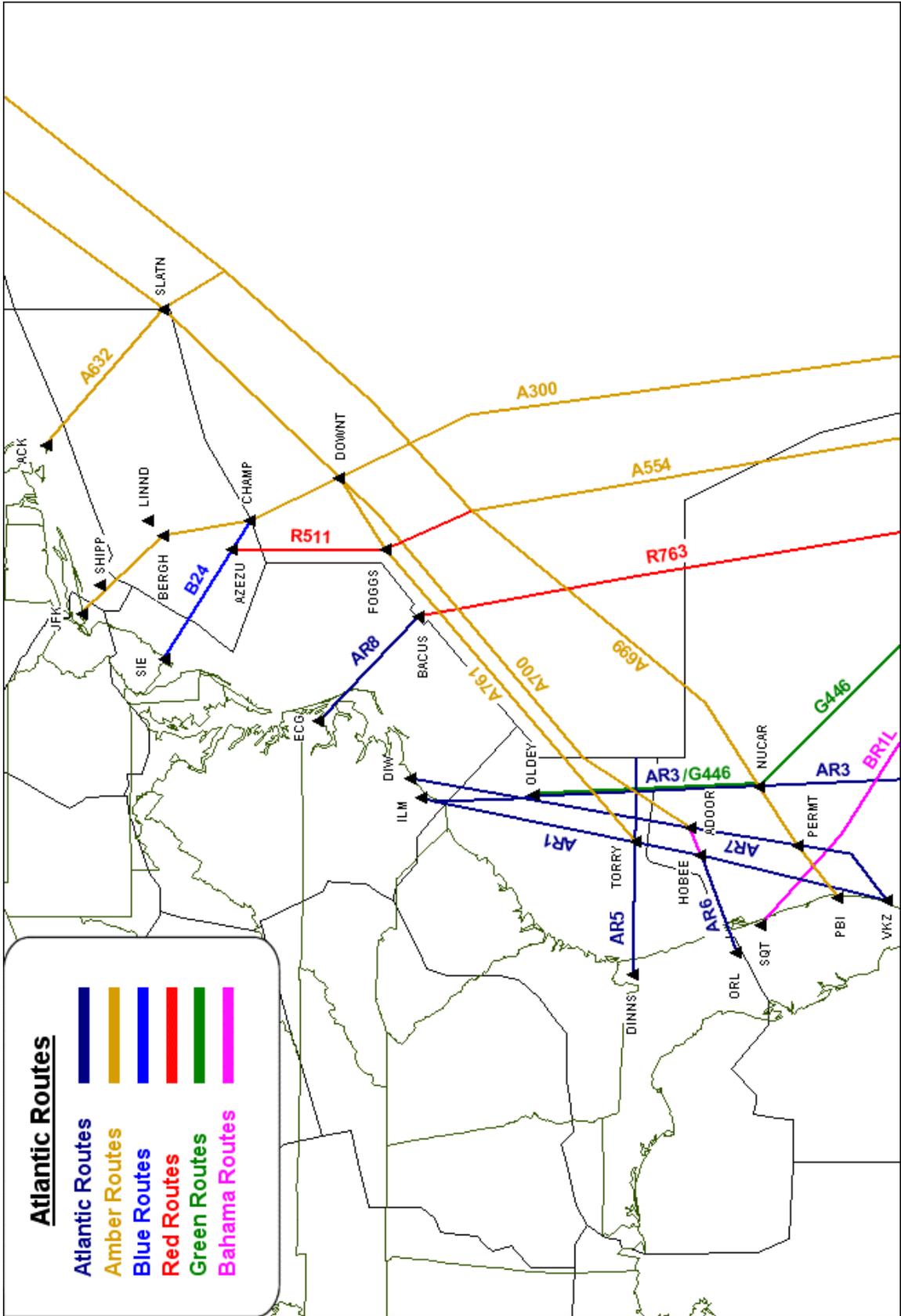
PHL

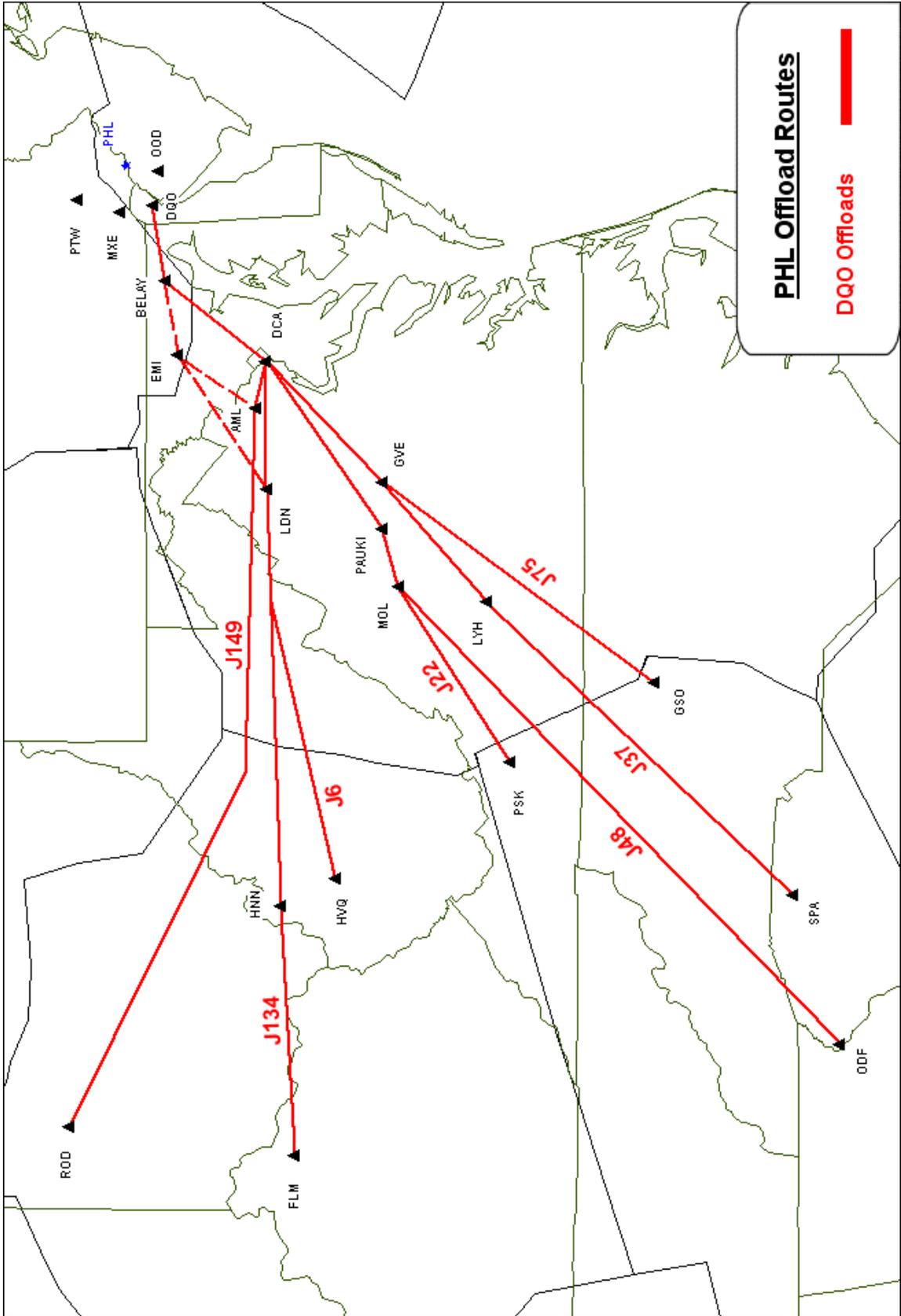
PTW J60/J64.....same destinations as N90 westgates

MXE J80/J6/J48/J75..same destinations as N90 westgates

OOD.....same destinations as WHITE/WAVEY

DITCH.....New England/international destinations





Common Reroutes

Departures:

Usually, the initial attempt is made to swap Northgates to Northgates, or Westgates to Westgates. For example, if J80 were impacted, offloading traffic to J64 or J6 would be the first option. WHITE/WAVEY departures may be swapped to J75, but again, additional traffic may need to be moved to preclude large MIT restrictions on J75. Incorporation of Offshore Radar Routes via A761 has significantly increased capacity in the oceanic routing system when traditional transitions to the Atlantic Routes are impacted. Whether the impact resides within ZNY at the departure fix, ZDC at the overland transitions, or ZJX at the Atlantic Routes; the Offshore Radar Routes remain a viable routing option.

Regarding PHL, MXE & PTW are in close proximity, so swapping between these two fixes is limited. An additional option when these fixes are impacted is to utilize the PHL DQO offload routes through PCT. The PHL departures will be capped at 10,000 ft. and treated like a BWI departure. OOD & DITCH may be used on a limited basis.

Arrivals:

If the ZNY arrival routes from the west become unusable, one initial move is to swap LGA and PHL arrivals south through ZID/ZDC. JFK arrivals are most easily swapped north through ZBW, but this reroute rejoins the same star at LENDY. If the problem area is LENDY or east, this option is no longer viable. EWR presents the most difficult reroute because it represents the single heaviest flow of traffic. One possible short-term EWR solution is to swap from ZDC through ZBW, but for a limited number of aircraft. The next step is to establish a reroute from the west thru CZY, which requires extensive coordination and always involve MIT. Yet another technique is to feed ZNY with one stream of traffic for two airports (this is most effective for EWR & LGA).

NAVAIDS

ARD	Yardley	HNK	Hancock	PSB	Phillipsburg
BWZ	Broadway	HUO	Huguenot	PTW	Pottstown
EMI	Westminster	LHY	Lake Henry	RAV	Ravine
ETG	Keating	LRP	Lancaster	RBV	Robbinsville
ETX	East Texas	LVZ	Wilkes-Barre	SAX	Sparta
FQM	Williamsport	MIP	Milton	SBJ	Solberg
HAR	Harrisburg	MXE	Modena	SLT	Slate Run

Special Use Airspace

There are no SUAs in ZNY that would normally have an impact on reroutes. The Vacapes areas in ZDC may impact ZNY south departures, however.

ZOB

Overview

ZOB TMU is configured so that specialists are responsible for certain geographical areas. The specialist answering the SVRWX line is responsible for the overall operation and will be able to coordinate routes for most of the enroute traffic through ZOB. Additionally, there are specialists responsible for PIT, DTW, CLE and ORD. If you have questions pertaining to those areas you must ask to speak to that specialist. NRP flights frequently present ZOB with flow complexities. For example, flights filed over DJB and transitioning north over CRL are an immediate conflict with other westbound traffic, as well as the ORD east departures. NRP flights departing on J64 and transitioning to DJB conflict with J60 westbound traffic.

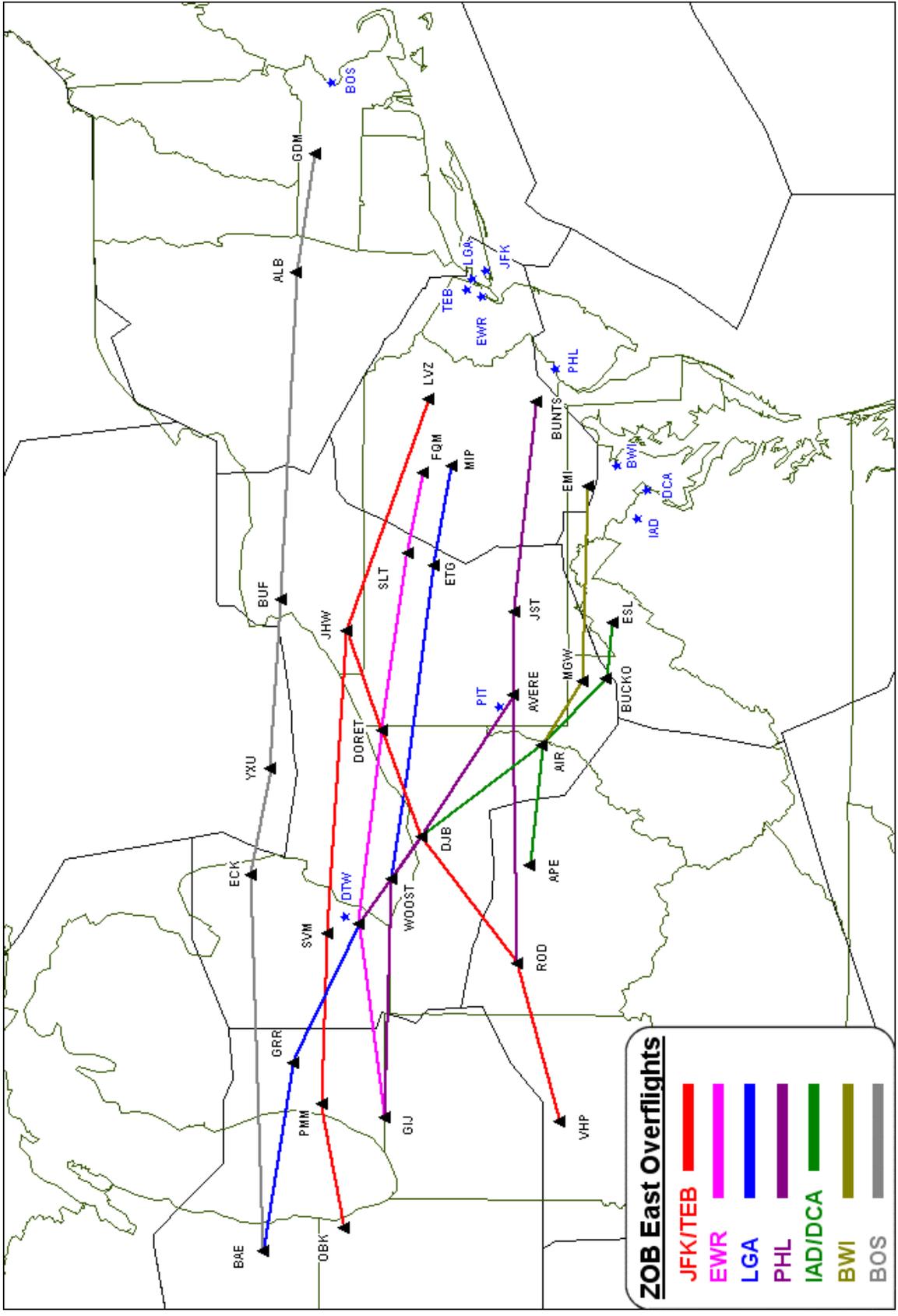
Major Traffic Flows

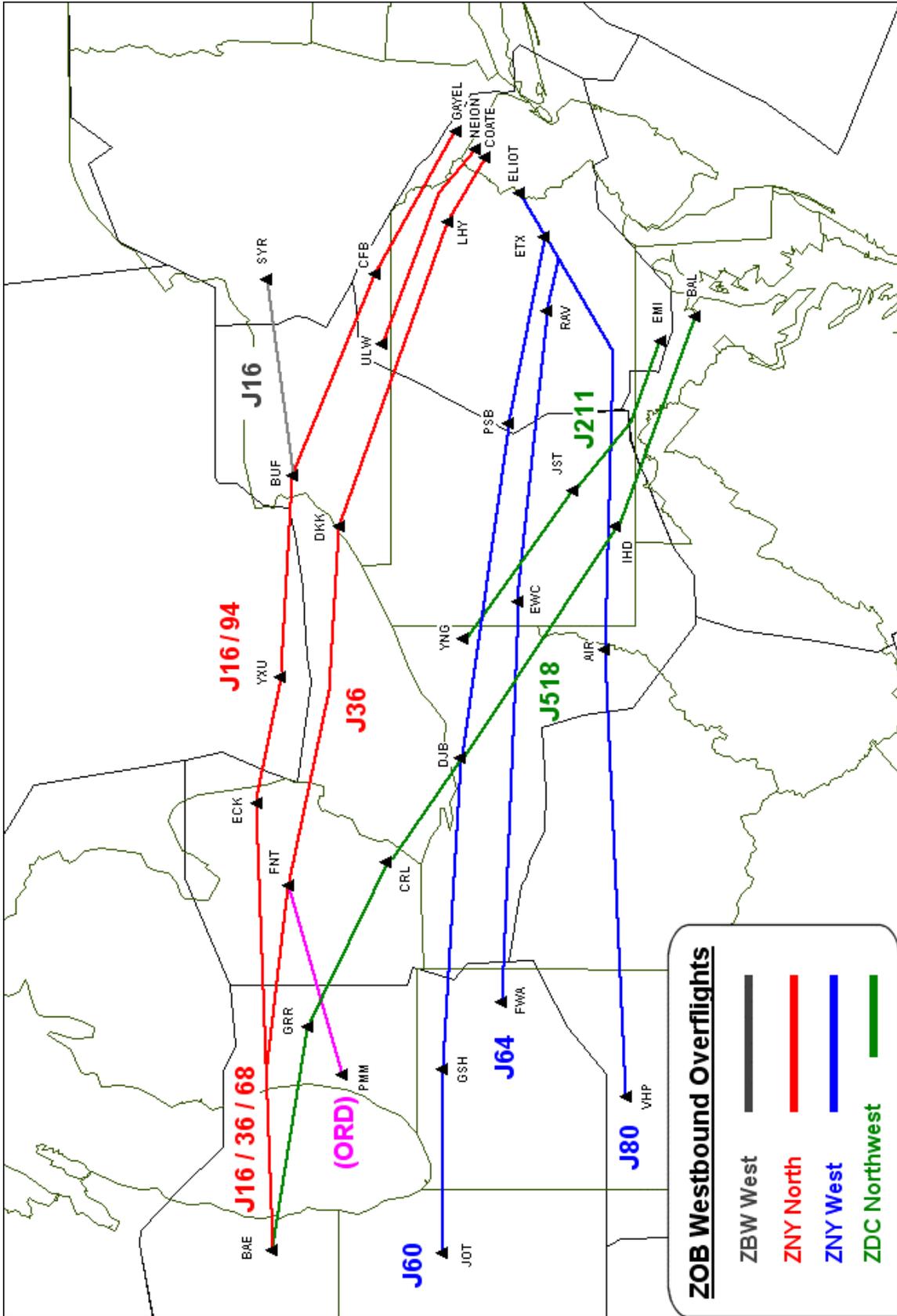
Eastbound:

J16/82.....ZBW arrivals
J70.....JFK arrivals
J584.....EWR arrivals
J146.....LGA arrivals
J152.....PHL arrivals
J30/162...IAD/DCA/BWI

Westbound:

J547.....ZBW departures to DTW/ORD and points north and west.
J95.....ZNY departures to MSP/SLC/SFO and the Pacific northwest.
J223.....New York metro to DTW
J36.....New York metro to ORD
J60.....ZNY to CLE/DEN and points west.
.....PHL/MDT/ABE to DTW
J64.....ZNY to LAX/SFO.
.....PHL /ABE/MDT to ORD
J80.....ZNY to PIT/CVG/IND/STL/MCI/PHX





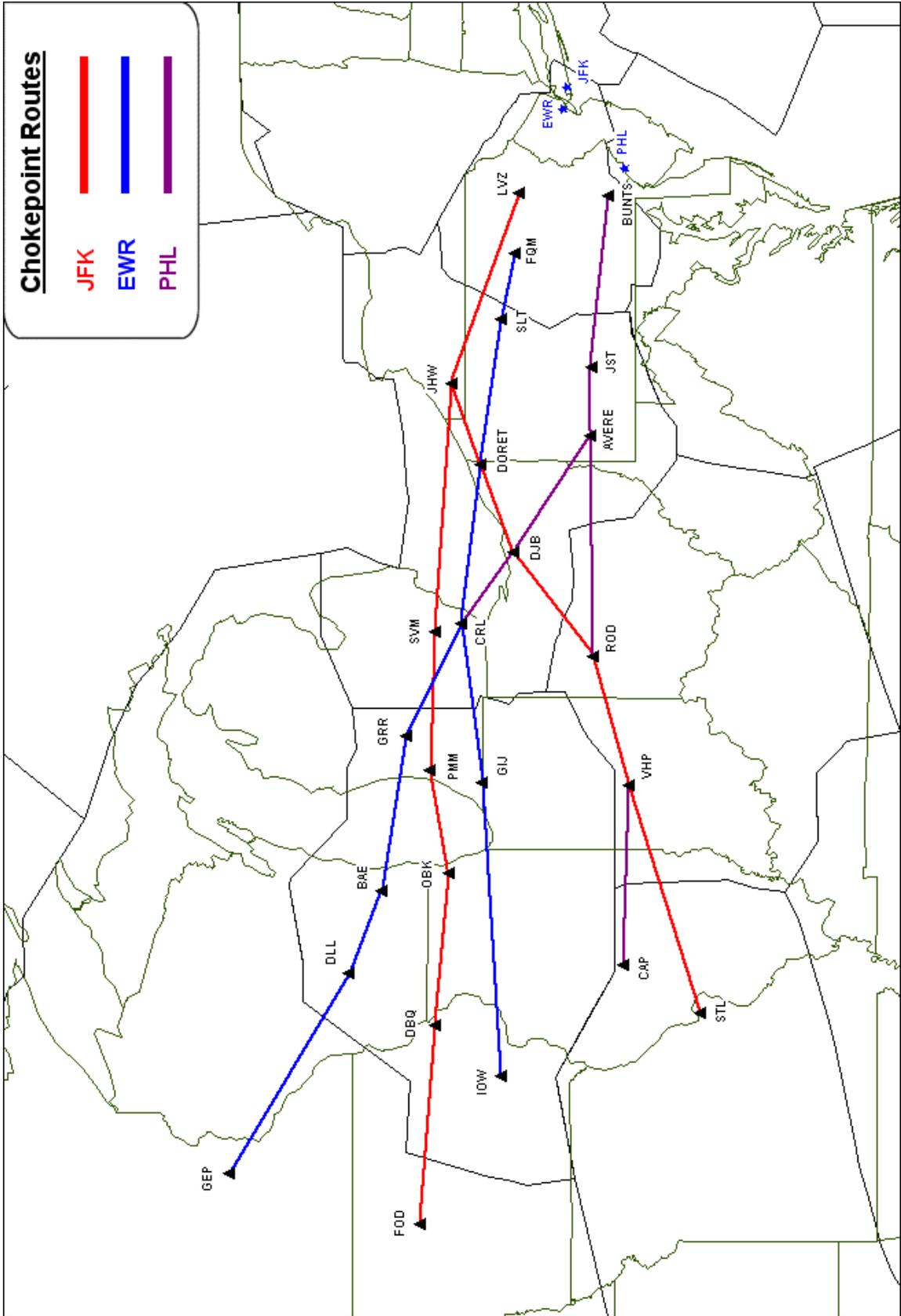
Common Reroutes

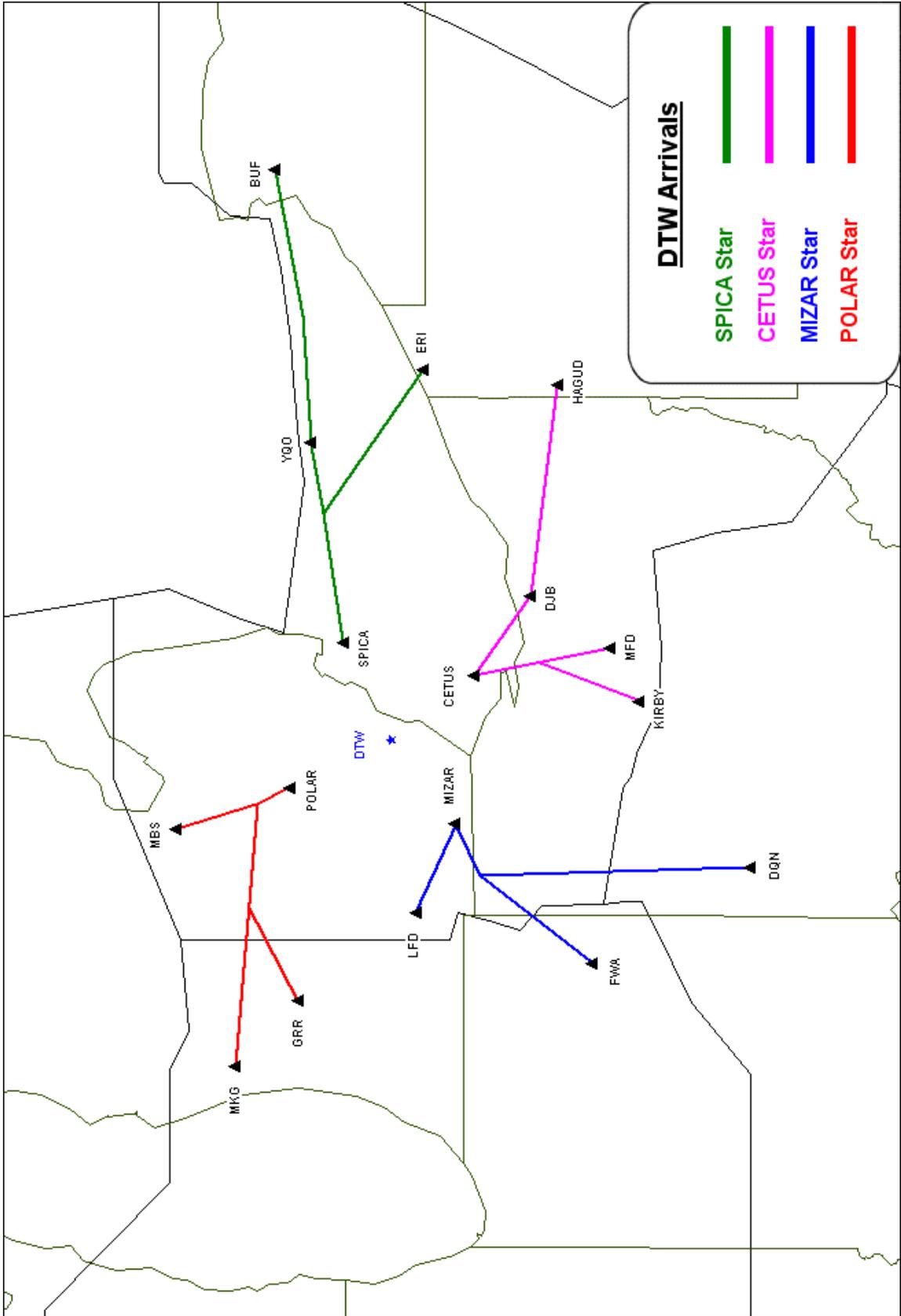
Eastbound:

1. NY Chokepoint routes. Chokepoint routings to EWR, JFK and PHL may be implemented at the request of ZOB or ZAU to introduce structure into the enroute environment and ease the implantation of MIT restrictions.
2. Route ZBW arrivals north through ZMP and CZY. The standard route can be found in the ORD swap book. Coordinate with ZAU, ZMP, YYZ and ZBW. If the Canadians can accept this route, the only other concern would be the military area located near ART. ZBW can many times cap this area at FL290 to run the swaps. Also, aircraft destined BUF,SYR, and ROC can be run north on a slightly different route. You can use the route in the ORD swap book.
3. Route ZDC and PHL arrivals thru ZID. Coordinate with ZAU, ZID and ZDC to reroute these aircraft via IIU J526 BKW (these routes can also be found in the CDR database or ORD swap book). ZID may request that you move the J42 traffic from ZFW, ZHU and ZME through ZTL in order to accommodate this swap.
4. If necessary, route the EWR arrivals north thru YYZ and ZBW or south thru ZID and ZDC. Once this flow has been rerouted, many times ZOB can handle the JFK/LGA arrivals with MIT and deviations, due to the decreased volume and complexity.

Westbound:

1. If J36 and J95 are impacted, reroute traffic to ORD/MSP thru ZBW via a GREKI departure and join the standard BOS to ORD route. Volume will likely be an issue, however ZBW departures may be restricted to accommodate the additional flow. ZNY to ORD traffic may also be swapped to J64.
2. When J60 and J64 are impacted, ZOB can usually handle the traffic by just using one of these airways with MIT and deviations. If both airways are unusable, CDRs via J80, J6 and the Northgates for transcons are viable options. Be aware that when ZOB is holding for LGA, they will not be able to accept traffic on J60; and if they are holding for PHL, they will not be able to accept J80 traffic. ZOB will usually accept ABE and MDT departures to ORD via PSB J60 DJB FNT PMM. PHL departures to ORD may be rerouted via J6 EYTEE J149 ROD, or via the DQO offload (avoiding ZNY).
3. If all the Westgates are unusable, traffic will need to be rerouted via the Northgates, J6 and J48. Much of the traffic filed via J6 and J48 may need to be moved as well, to better balance the departure flows.





Major Traffic Flows

DTW and PIT:

DTW and PIT are a primary focus for ZOB. Specialists are assigned to specifically deal with these airports.

PIT arrival routes:

From ZAU.....J146 J34 DJB ACO V337 CUTTA
....CRL DJB ACO V337 CUTTA
From ZDC....EKN IHD V474 NESTO
.....J211 BUSTR IHD V474 NESTO
From ZID.....CTW V443 WISKE
.....PKB V117 WISKE
From ZNY....J80 IHD NESTO
....SLT SLT240 ETG268 V226 GRACE
....PSB V58 GRACE

DTW arrival routes:

From ZAU....LFD V30 V98 MIZAR
....FWA V11 V98 MIZAR
....MKG V450 V133 POLAR
From ZBW....BUF YQO V464 SPICA
From ZDC.....J211 HAGUD DJB V26 CETUS
From ZID.....DQN V98 MIZAR
.....J83/85 DJB V26 CETUS
From ZNY.....J60 DJB V26 CETUS
.....ULW303 KOOPR YQO V464 SPICA

NAVAIDS

AIR	Belair	ETG	Keating	SLT	Slate Run
BUF	Buffalo	EWC	Elwood City	SVM	Salem
CRL	Carlton	FNT	Flint	ULW	Elmira
CXR	Chardon	IHD	Indian Head	YNG	Youngstown
DJB	Dryer	JHW	Jamestown	YQO	Alymer
DKK	Dunkirk	JST	Johnstown		
ECK	Peck	MGW	Morgantown		

Special Use Airspace

There are no SUAs in ZOB that would normally have an impact on reroutes.

ZTL

Overview

The STMC generally answers the ZTL lines. In addition to the STMC position, ZTL Traffic Management consists of the following:

- Atlanta Meter Position (AMP)- The AMP is responsible for ensuring the optimum flow of arrival traffic to the Atlanta terminal area, which, in turn, will maximize landing capacity. Minimizing and equalizing the impact of arrival traffic on ZTL arrival sectors is of primary concern to the success of this position. AMP is responsible for setting the MIT requirements for the arrival sectors; fix balancing, and management of arrival delay data for ATL. Personnel from the combined Atlanta Airport Traffic Management Unit (AAMTU) primarily staff the AMP.
- Charlotte Meter Position (CMP)- CMP is responsible for the overall flow and coordination on traffic inbound to the CLT airport. Includes setting the MIT requirements for the ZTL arrival sectors, any first tier MIT restrictions, fix balancing, and management of arrival delay data for CLT.
- Enroute Spacing (ESP) – ESP is responsible for enroute flows to airports such as ORD, CVG, IAD, etc., and necessary Call for Release (CFR) restrictions placed on internal ZTL airports to fit traffic into the overhead stream.
- Monitor Alert Strategy and Tactics for Evaluation and Resolution (MASTER) - The purpose of the Monitor Alert Strategy and Tactics for Evaluation and Resolution (MASTER) position is to perform Monitor Alert (MA) functions and to implement strategic and tactical initiatives to reconcile demand with capacity. This responsibility requires coordination with other TMU positions such as AMP or CMP. The STMC determines the focus of the MASTER position based on a real-time assessment. However, the position always retains the responsibility for compliance with MA requirements.
- Weather Coordinator (WC) - The WC functions as the primary interface between the CWSU meteorologist and the TMU/control room personnel. In the absence of a meteorologist, the WC assumes many of their duties (pireps, weather brief at standup, etc.). The WC is staffed 24 hours a day. The WS assumes the duties of WC during the midnight shift.
- Military Operations Specialist (MOS) - MOS functions as the primary interface between the military and the TMU/Control Room personnel. The MOS position is staffed during the day and evening shifts. It is collocated with the WC position. The WS assumes the duties during the midnight shift.

Major Traffic Flows

J22.....Traffic from the DC area airports to Texas and Gulf states
J14, J37, J208, J209...Traffic destined to the NE airports
J14/52.....CAE/RDU
J4/20, J39, J41, J45,...Major north-south routings for traffic destined to/from FL airports
J43, J73, J89, J91, J151

Additionally, there is a great deal of NRP and point-to-point traffic traversing ZTL, both east-west and north-south. SWAP and Playbook reroutes for the Northeast frequently impact ZTL due to its strategic location. Additionally, weather or volume impacting ZJX and ZMA may result in ZTL dynamic reroutes to and from the Florida airports.

ATL Departures

Departure swap at ATL is generally accomplished through CDRs.

East:

ZNY/ZDC/ZBW/ZEU

South:

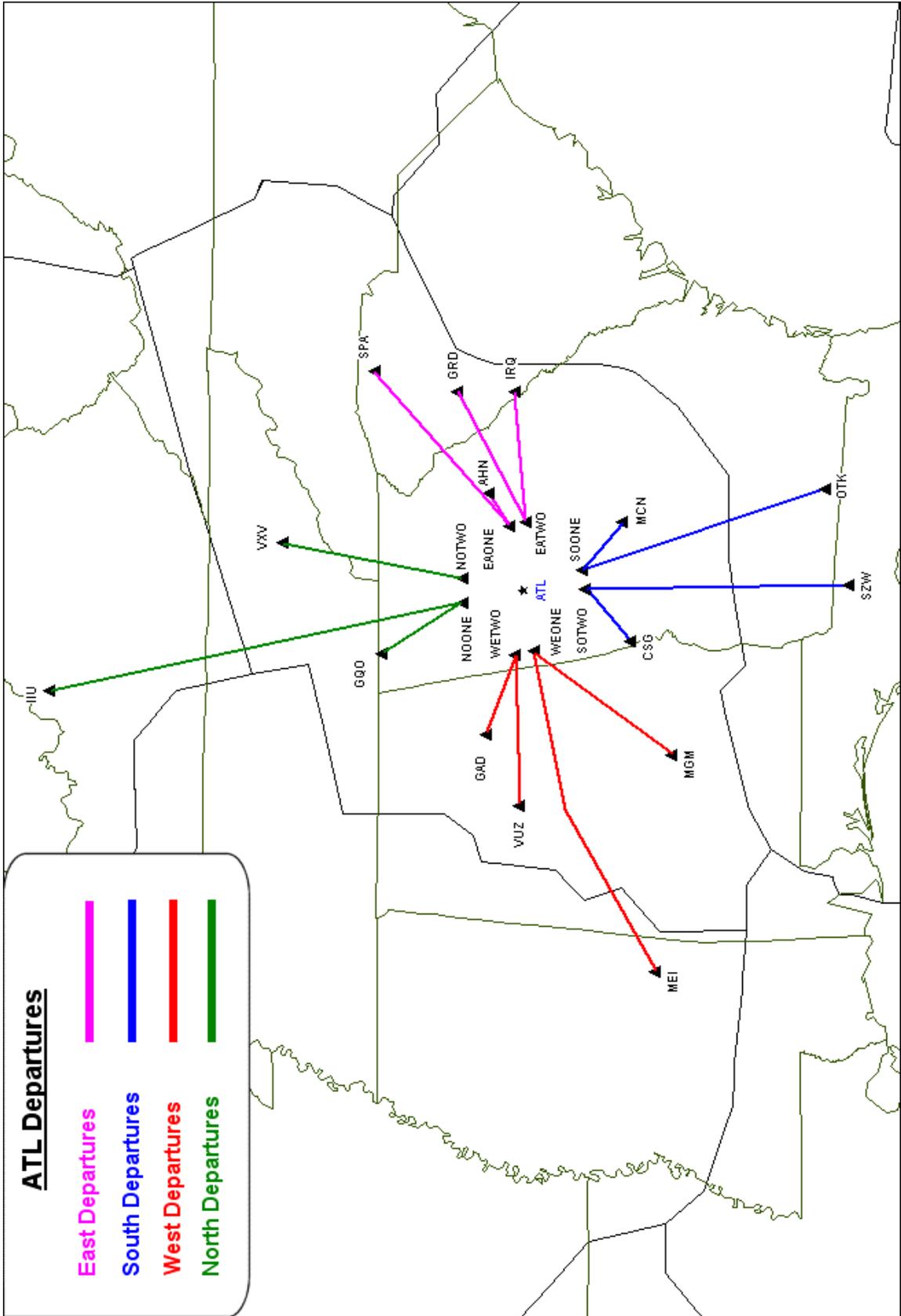
ZJX/ZMA/Caribbean/Latin America

West:

ZME/ZHU/ZFW/ZAB/ZLA/ZKC/ZDV/ZOA/ZLC

North:

ZID/ZOB/ZAU/CZY/ZMP/ZSE



ATL Arrivals

MACEY.....ZDC/ZNY/ZBW/ZID/ZEU/CZY
SINCA.....ZJX/ZMA/Caribbean/Latin America
LGC.....ZJX/ZHU/ZFW/ZME/ZAB/ZLA/some Latin America
RMG.....ZME/ZKC/ZMP/ZAU/ZID

CLT Departures

Departure swap at CLT is generally accomplished through CDRs.

North:

ZID/ZAU/ZMP/ZOB

East:

ZDC/ZNY/ZBW/ZEU

South:

ZJX/ZMA/Caribbean

West:

ATL/ZFW/ZHU/West Coast/Latin America

CLT Arrivals

MAJIC.....ZDC/ZNY/ZBW/ZEU
CTF.....ZJX/ZDC/ZMA /some Caribbean
UNARM.....ZTL/ZHU/ZME/some ZJX
SHINE.....ZME/ZID/some ZTL

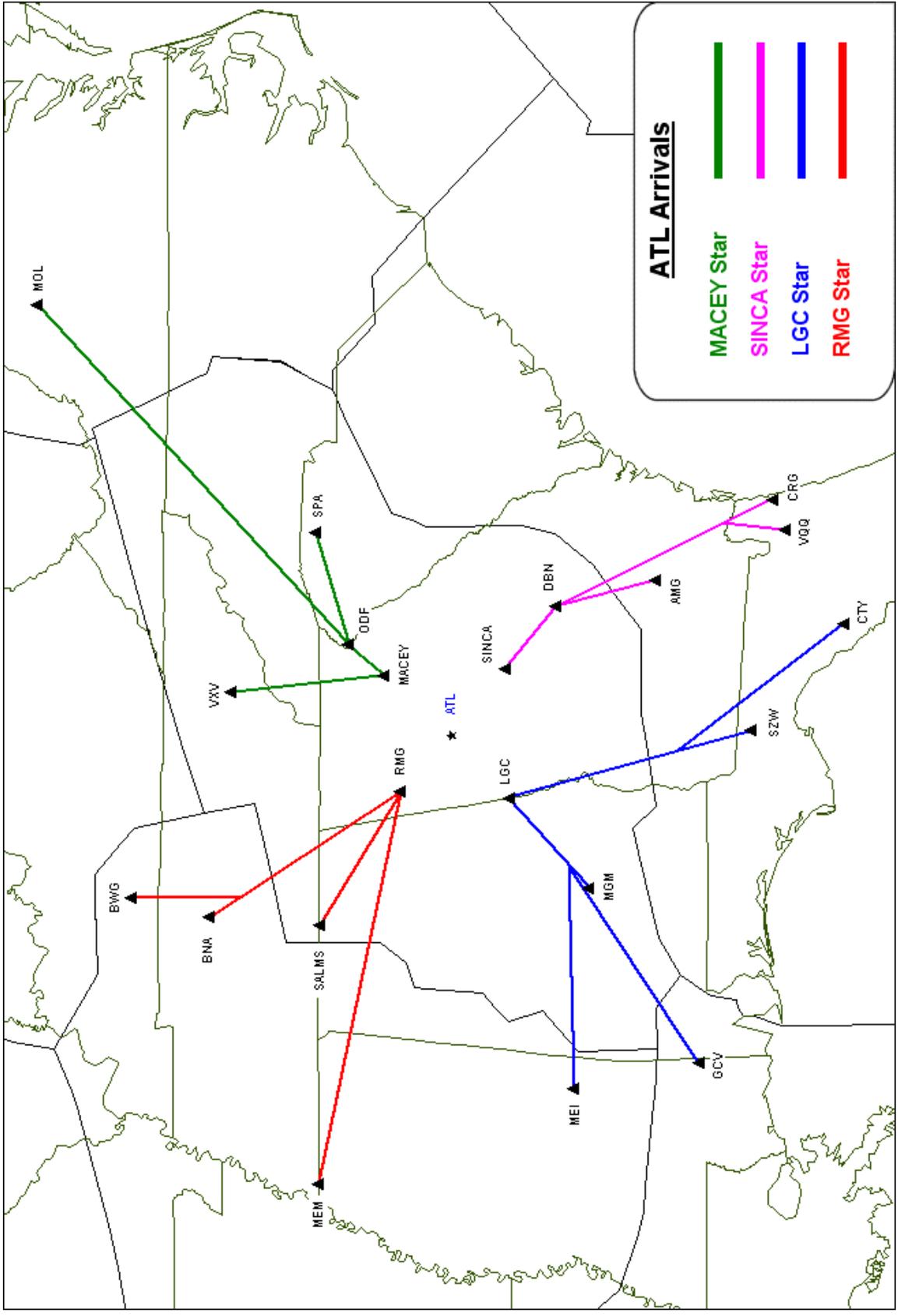
Major Crossing Points

ATL.....Atlanta, GA

SPA.....Spartanburg, SC

VXV.....Volunteer (Knoxville, TN)

VUZ.....Vulcan (Birmingham, AL)



NAVAIDS

ATL	Atlanta	GSO	Greensboro	PSK	Pulaski
AHN	Athens	IRQ	Collier	RMG	Rome
CTF	Chesterfield	LGC	LaGrange	SOT	Snow Bird
GCV	Greene County	MCN	Macon	SPA	Spartanburg
GQO	Choo-Choo	MGM	Montgomery	VUZ	Vulcan
GRD	Greenwood	ODF	Foothills	VXV	Volunteer

Special Use Airspace

There are no SUAs in ZTL that would normally have an impact on reroutes.